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DISSERTATIONS
ON
INFLAMMATION.

VOLUME II.

CONTAINING,

DISSERT. II. continued.—ON THE CURE OF SIMPLE INFLAMMATION, AND ITS CONSEQUENCES.

DISSERT. III.—ON THE PHAGEDENIC, AND SOME OTHER SPECIES OF INFLAMMATION.

DISSERT. IV.—ON THE SPONGOID INFLAMMATION.

DISSERT. V.—ON THE SCROPHULOUS INFLAMMATION.

DISSERT. VI.—ON THE CANCEROUS INFLAMMATION.

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DISSERTATIONS
ON
INFLAMMATION.

DISSERTATION II.
CONTINUED.
ON
SIMPLE INFLAMMATION,
And its Consequences.

Of the Cure of Inflammation.

IN attempting the cure of inflammation, or its consequences, we must naturally be directed to the means of removal, by the nature of the action itself, and the object which we have in view. The

treatment of the inflammatory action may be considered in two points of view ; first, as this action consists in peculiar changes of the natural action, which changes we wish to remove ; and, secondly, as this action naturally tends to disappear, and produce other actions, which require a peculiar treatment. The observations, therefore, which are to be made upon the method of cure, may be arranged under the heads of the different terminations of inflammation.

Of the Treatment necessary to procure Resolution.

IN the treatment of most wounds, our chief intention is to prevent the accession of inflammation, and procure adhesion, which is, in one respect, analogous to resolution. When inflammation has taken

place, either in wounds, or in other cases, our great object is, to remove or lessen it as quickly as possible, which we effect, first, by removing the exciting causes of inflammation, or such causes as tend to increase the action; and, secondly, by applying such remedies as tend directly to abate the inflammatory action.

UPON the propriety of removing the exciting causes, and the manner of doing so, very little requires to be said. If any acrid, or stimulating substance, has been applied to the skin, or any extraneous body been forced into it, these must be removed before the inflammation can be resolved; because, if they be allowed to remain, they will keep up the action so long, and to such a degree, that suppuration will be produced, or gangrene, if the part be very sensible, (as, for instance, the cutis) or if the exciting cause be very

irritating. Acrid substances are to be removed by ablution with water, which is in general much better than the solutions which are proposed upon the principle of chemically combining with the acrid; because these generally are likewise acrid, or stimulating, and increase still more the inflammation which has taken place, before they can combine with the substance which was formerly applied, and become neutralised. This may be illustrated by the operations of acids and alkalis. If heat have been applied, so as to induce inflammation, we must remove the superabundant quantity of heat, but must not apply cold; because we then do mischief, as will be afterwards mentioned.

WHEN a substance is forced into the skin, so as to stimulate mechanically, we must endeavour to lay hold of it, and

pull it out ; but if it have penetrated so deep as to make this impracticable, we must then enlarge the wound, and remove it ; because we thus may enable the wound to heal by the first intention. If, however, the injury done be great, if the part be much bruised, or the extraneous substances be numerous, we may be less anxious about the extraction of such as require much trouble ; because the irritation which is thus given will tend to increase the degree of inflammation, and, very probably, its extent, at the same time, that, from the original injury, there is little prospect of adhesion being procured, or suppuration prevented. We are then chiefly to search after, and extract foreign bodies, when we apprehend that their removal may permit the inflammation to be resolved, and adhesion to take place, and when we expect that their presence will excite a

greater action than our endeavours to extract them will do. This is a rule which ought to be carefully remembered by every surgeon, and especially by those whose situation makes them be daily called to take the management of gunshot wounds. They are not brought to their patient to show how much they can do in the way of cutting and probing; it is their duty to administer relief, and act so as to prevent and abate the inflammatory action, which they will often do most effectually by letting their patient alone, and throwing aside their ball-screws and forceps.

THE circumstance of being in an unusual situation, in which the natural action cannot possibly be continued, is also a very frequent cause, producing inflammation, and preventing its resolution. We ought, upon this principle, which

has been formerly mentioned, to endeavour, in almost every instance, to bring the sides of the wound together, if an wound has been the exciting cause of inflammation, by which we shall much more readily prevent or overcome the inflammatory action; because we thus bring the parts nearly to their natural situation, with respect to interspace, and thus make the organic particles be more readily thrown out*. This practice ought to be pushed farther than is often

* Bringing two surfaces in contact, although they naturally were not so, will have the same effect. Thus, if the skin be taken off the edges of our fingers, and the side of the one be applied to the side of the other, adhesion will take place, and no inflammation will be produced. When a part is inflamed, and one portion is brought in contact with another, we uniformly find, that the inflammation is less where the parts were in contact than elsewhere. Thus, when the intestines are inflamed, the parts suffer least which touch other intestines, whilst the angle betwixt the folds is most affected. This fact is observed by Mr. Hunter,

done. Even in many contused wounds it will be useful ; because, although union may not be immediately produced, yet, when the contused part is either recovered, or absorbed, the inflammatory action may be prevented, or removed, by the restoration of the natural action, if the part be in absolute contact. It must, however, be remembered, that if much difficulty be experienced in bringing and retaining the parts together, owing to the swelling, from the previous existence of the diseased action, then our endeavour will be hurtful ; because the irritation which we thus give, has a greater power to increase the action, than the circumstance of the parts being in contact, has to diminish the inflammation, and restore the natural action.

but explained upon the principle of contiguous sympathy ; or, “ a mutual harmony being produced, which prevents
“ their being inflamed.”

By removing, then, the exciting causes of inflammation, before the action be induced, we shall frequently prevent it altogether from being formed; but, even although we should be disappointed, we, by this removal, render the disease milder, less extensive, and much more easily overcome; for, as long as the exciting causes continue to operate, it is impossible to procure resolution; but the action will be kept up until some other termination, or consequence, be induced. But, although we thus prevent the action from being raised to so great a degree as it otherwise would be, yet we do not immediately overcome or destroy it; because the action, when once induced, has, like every other action, a tendency to continue for some time after its cause is withdrawn. This continuance may be longer or shorter, according to circum-

stances, and its termination may be more or less unfavourable. We are, therefore, under the necessity of employing such remedies as have a power of directly diminishing or removing this action. It has, however, been doubted, whether they ought, in every instance, to be employed; or, in other words, whether resolution ought uniformly to be desired. It has, for instance, been deemed unsafe to check those inflammations which depended upon a general or constitutional specific disease, or occurred during its existence. But this opinion, which was evidently founded upon the supposition of the operation of morbid humours, cannot be maintained, now that this is given up. Granting inflammation, in every one of these cases, to be dependent upon the general disease, and to exist as a symptom of it, no harm can

accrue from resolving it *; because, if the inflammation have once taken place, the full effect of the general disease is produced, which, therefore, cannot be affected by the peculiarity of the termination of this inflammation, unless it be proved, that some humour be sent there to be concocted and thrown out. In many instances, inflammation occurs in a general disease, merely as an accidental circumstance; but, even in those cases where the local inflammation is most decidedly dependent on the general action, and is perhaps essential to it, we find, that no bad effects follow from resolving the inflammation; and, if this be the case with regard to specific inflammation, we may still more certainly extend the

* If we attempt, without fear, to cure the general disease, why may we not also endeavour to hasten the termination of the local disease?

principle to the treatment of the simple inflammatory action, with which we have at present a more immediate connection. There are, however, some inflammatory affections which we sometimes cannot put back; such as those tumors which succeed the small-pox; but, when we do succeed, no bad consequence follows; and the failure of some of our attempts can be no argument against the general plan, more than our failure in many other instances.

RESOLUTION is the quickest termination of inflammation, and, therefore, ought, perhaps in every instance, to be attempted, unless in cases where the injury is such that suppuration is unavoidable; as, for instance, extensive bruises, &c. It is our great object, even in those inflammations which we raise intentionally; as, for instance, in the operation for

hydrocele. At one time, however, this was not admitted without limitation; and suppuration was, in many instances, anxiously sought for, being considered by some as the only way of obtaining a cure. “ Union, (says Mr. O’Halloran) “ without suppuration, by an immediate coalescence, or by the first intention, is merely chimerical, and is opposite to the rules of nature. Inflammation (contrary to the received canon) is not the time for a reunion of divided parts : This happy minute follows, not precedes suppuration.” It was timidity, with regard to the prevention of suppuration, and want of knowledge of the powers of the animal frame, which so long retarded the progress of surgery, and prevented the improvement of its operations.

THE remedies which we employ, with

the intention of abating and removing the inflammatory action, are either general or topical.

GENERAL remedies are perhaps only useful, or have only a superiority over topical ones, when a general disease, or fever, accompanies the local inflammation. Topical ones are only to be trusted to alone, when the disease is entirely local.

THE general remedies, are naturally such as tend to abate action in general, or to diminish the natural action; and, therefore, will consist of bleeding, cold, purging, sweating, nauseating medicines, and some of the agentes dissimiles.

BLEEDING is justly considered as the most powerful, and the most useful of all those remedies; and, in many cases, is the only one which can accomplish a

cure. The quantity of blood which it is necessary to detract, will be regulated by the effect of the inflammation upon the system; and by the previous condition of the person, with regard to strength; for those who are weak bear bleeding worst; and in them we cannot repeat it so frequently, as in the robust. Delay in them is, however, more dangerous; because the inflammation makes a more rapid progress; and, therefore, we ought sooner to push our remedies.

WHEN the system is affected, in consequence of inflammation of vital parts, the general action is greater than when other parts are affected, and, therefore, bleeding must be used earlier, and with more freedom. Mr. Hunter observes, that when these parts are inflamed, the patient bears bleeding worse than when parts are affected which are not

vital; but this observation must not be admitted indefinitely. When these parts are affected, the action is so violent, that the power cannot long support it; and, therefore, we must have early recourse to the lancet, and allow the blood to flow until the pain diminishes, and ceases to abate any more, and until the pulse becomes softer, and perhaps fuller. This is the time to stop; but, whenever the pain returns, or the pulse becomes hard; the orifice should be again opened, although we had bled only half an hour before. The system, in this way, is not weakened, nor the action sunk so low as to injure the power of recovery, which might be the case, were we to bleed too copiously at once. This remark applies, in a particular degree, to inflammation of the bowels; but it may also be extended to pulmonic inflammation; only, in this case, we can detract more blood at a time than in the other

instance ; because the system sympathises less strongly with the lungs, and, therefore, general evacuation will be longer of operating on the local disease. The same cause, however, makes the danger less ; because the general action is not raised so high, and the part itself not being so delicate, can support the action longer, and, consequently, the danger is less. It is an established point, that no action can subside, or be destroyed suddenly, and the patient become free from disease. All morbid actions must subside, more or less slowly, and, therefore, bleeding ought not at once to be pushed so far as to produce fainting, unless the patient be very liable to faint. This sudden cessation of general action does not destroy the specific nature of the action which is going on when it is induced, but rather leaves the parts stationary, the tendency to morbid action

still continuing, although the capability to act be suspended for a moment *. In place, then, of bleeding so as to exhaust the strength quickly, and endeavour, as it were, by the quantity of the discharge, to destroy the disease by one bleeding, it will be much better to bleed just until we produce the feeling of weakness to a moderate extent, and abate, to a certain degree, the pain and hardness of the pulse; stopping, whenever we find that we are not abating it farther, distinguishing, however, betwixt real abatement and syncope, or want of power to act and feel. We then repeat the evacuation, whenever the hardness of the pulse and pain return; and thus, perhaps

* When we are obliged to stop our bleeding, on account of fainting, before we would otherwise do it, we will find it necessary to repeat the venesection sooner than if this did not happen.

in one day, and with infinitely more benefit, bleed much more frequently, and, perhaps, to a greater extent than is sometimes done in a week, by those who bleed more copiously at once, and repeat it feldomer.

CONCERNING the exact quantity of blood, which ought, in the different varieties of inflammation, to be detracted, I hold it, from the above principle, to be ridiculous to give any direction; because no general rule can be given, by which we may, *a priori*, determine the quantity. We are to bleed until we procure an abatement of the action; and to stop whenever this abatement ceases to be really progressive *. We are to renew the bleeding, whenever the action again

* We must distinguish, as has been already mentioned, betwixt a real abatement of the inflammatory action, and a mere temporary suspension of action, or syncope.

increases, and stop, as before, whenever it is abated, remembering, that, after some time, a more sparing detraction will produce a greater effect, than a more copious one would do, in the commencement of the disease. It must also be attended to, that, owing to the weakness induced by the disease, and by the bleedings, we must, toward the end, bleed at longer intervals; for, if we continue to bleed in the same way as formerly, we would either kill the patient, or at least prevent the act of restoration from taking place; because we would thus diminish the power, or vital energy, which was to perform this act. Those, then, who order a certain number of ounces to be taken away, must reason upon probability, and prescribe less efficaciously, than those who direct no determinate quantity, but regulate their practice by the effects. It is equally foolish in those

who order bleeding, *pro viribus*, and are satisfied with this until their next stated visit; because bleeding until fainting takes place, and not repeating it for some time afterwards, may be doing a great deal too little.

As there is a proper time for stopping each individual evacuation, so also is there a period at which we ought to stop the general plan of cure by bleeding, or at least to intermit it. And to determine when this period is come, is sometimes a pretty nice point, and one of much importance; because, if we stop too soon, we allow the action still to go on, and, perhaps, to terminate fatally. On the other hand, if we bleed too long, we sink the parts below the state necessary for recovery, and even accelerate the unfavourable termination. When, for instance, from the state of the pulse, and

other circumstances, we apprehend the accession of gangrene, bleeding will not abate pain, but will bring on the mortification sooner, and make it spread farther, as will be afterwards mentioned.

As the accession of inflammation depends upon a change of the natural action of the vital principle, so does its removal depend upon the reconversion of this into the natural action, which implies activity, or an active state. If, then, we bleed in the end of inflammation, we lessen the powers of the part so much, as to prevent restoration ; gangrene, therefore, will take place : Or, if the part be less delicate, and the progress of the action consequently slower, the inflammation may continue stationary for a considerable time, and become chronic, or habitual. This state is not to be cured by bleeding, but will rather be made worse

by it. Whenever, then, after inflammation has continued for a length of time, we find, that venesection does not produce the usual abatement; or, whenever, although there be a temporary abatement, the pain increases afterwards to a greater degree, we may be certain our treatment is improper. We likewise find, that the longer bleeding has been delayed, in the beginning of the disease, the sooner must we stop, and the less quantity must we take at a time; because, in this case, the inflammatory action is nearer its termination, and is more ready to produce gangrene, if the parts be delicate, or the action great, or, if otherwise, the inflammation *alluefacta*. We are also to refrain from bleeding, when we find that the inflammatory action is about to terminate in another action; as, for instance, the suppurative; because, in the first place, bleeding, in

this new action, can do no good, but, by weakening, will do harm; and, secondly, if there be only a tendency to this action, the action not being yet formed, or beginning to form, we may, by bleeding, interrupt the progress of the inflammation, and convert it into a more tedious disease, or the inflammation *affuefacta*.

BLEEDING has been used, not only as a cure for inflammation, but also as a preventative; but this must be considered as proper, only in particular instances. When, for instance, an wound has been inflicted, or an operation necessarily performed, on a robust person, bleeding immediately, or very soon after it, may be useful; because it will tend to lessen the chance of the natural action being carried so high as to become changed. These people cannot have their action

much increased without disease ; and, therefore, it is necessary to lessen it, and bring it down to a more proper medium. But there are other cases, where the action is naturally rather too low, and the patient weakly. In these cases, bleeding can do no good, but much harm ; because it increases the previous weakness, and makes the inflammation, if it does occur, more dangerous, on account of the little power which there is to support the action. These people even bear bleeding worse than others, when inflammation has actually taken place. It ought never to be practised, in order to reduce the natural action, before disease has taken place ; and, after the inflammatory action is induced, it ought to be used cautiously, and only to such an extent, as may be necessary for removing the tendency to immediate bad consequences. It ought, however, to be

used very early in the disease ; because, in weak people, the action does more harm in a given time, than in the strong ; but it ought likewise to be sooner abandoned, otherwise we either hasten mortification, or prevent the act of restoration from taking place.

BLEEDING is rarely necessary in inflammation of the cellular substance alone, unless the action be extensive ; in which case, the system is so affected, as to require our interference. When the cutis is inflamed, producing erysipelas, the system suffers considerably ; but, as this frequently ends in mortification, bleeding has been neglected by many ; but it is evident, that, if the disease be simple, and not dependent upon any specific agents dissimilis, or epidemic contagion, venesection is the proper cure, provided it be early employed, as we thus

diminish the action more certainly than by any other means. If, however, the disease have been neglected, and the action be nearer a termination, then we must either do nothing in the way of general treatment, or must give opposite remedies from bleeding, according to circumstances. When muscles are inflamed, bleeding is often necessary to a very great extent, as we observe in rheumatism; and, in the beginning, we must take a greater quantity at a time, in order to procure an abatement, than in many other cases. When the viscera are inflamed, bleeding is uniformly necessary, and generally requires to be frequently repeated.

It is a common opinion, that the blood ought to be taken, if possible, from a vein which arises from, or near the affected part; that, for instance, in phre-

nites, we should bleed in the jugular vein; in inflammation of the feet, we should bleed in the leg, &c. : And, when this can conveniently be done, it may be preferred; because, it not only possesses all the advantages of general bleeding from any other vein, but also may be supposed to produce, in a slight degree, a topical evacuation. If, however, the veins be so small, that we cannot detract enough of blood, and sufficiently quickly; or if, from any other cause, we cannot do so, then, if the general action be violent, we must have recourse to another vein, as the loss to be sustained, by confining ourselves to this vein, is infinitely greater, than any good which can be derived from it, as a local evacuation. Indeed, when we consider the laws of the circulation, we must allow, that very little good can be done in this way, as a local detraction; because one vein does

not lose more blood than another, except during the moment of the flow.

THE blood, when drawn during inflammation, has always a buffy coat, which is, in general, thicker, and more concave, in proportion to the violence of the inflammatory action ; and the continuance of this condition, is one circumstance which points out the necessity of continuing our evacuation : But the mere existence of a buffy crust, is not, without these circumstances, any infallible sign of the necessity of bleeding ; because this crust is to be found on the blood, after the inflammation has begun to become passive ; and it is to be found also, when mortification is approaching ; we observe it likewise very frequently upon the last cup of blood which we find it necessary to take away. In these cases, however, the crust is much softer, gene-

rally thinner, always flat, instead of concave, and looser in the texture ; it is also more of a greenish hue. These circumstances, conjoined with the state of the pulse, will enable us to judge, whether we should totally desist from, or continue our evacuations with caution. Most frequently they forbid farther bleeding.

. COLD, or the subduction of heat, is chiefly useful as a topical application ; but it is also proper to be applied, in moderation, for the abatement of the general fever, unless we be desirous of procuring perspiration. The quantity of bed-clothes ought to be lessened, cold drink should be allowed, and a free circulation of cool air into the room. The application of cold, however, ought, in general, only to be carried to such an extent as shall be sufficient for diminishing the morbid degree of heat, and not so

far as to produce sensible cold, or the sensation of cold ; because this, in many instances, will be pernicious, upon the principle of the sympathy of equilibrium, the action of the internal parts being increased by the speedy application of cold to the surface ; and, therefore, if the internal parts be inflamed, their morbid action must be still farther increased. If the cold be long applied, to any considerable degree, it will likewise, by the sympathy of association, weaken the whole system too much, and injure the act of restoration. As bleeding is to be used only until it restores a natural state, and abates pain, so also is cold only to be applied in such a degree as may be necessary for diminishing the preternatural heat, and sensation of the surface ; which it does, by lessening the morbidly increased action, and reducing it to the natural state. The degree must

therefore gradually be diminished, in proportion as the general disease subsides, otherwise we injure the system, and prevent recovery. There is, however, this difference betwixt bleeding and the application of cold, that the first may be used suddenly, and to a considerable extent at once, whereas, the second ought, especially in all cases of internal inflammation, to be employed more slowly, and its degree regulated by the degree of the general heat of the surface.

NAUSEATING medicines are also very useful, independently of the sweating which they frequently induce; and are a very powerful mean of abating action in general *. Employed, after bleeding has been used once or twice, they are pro-

* Nausea has often been employed with success, in checking active hemorrhage.

ductive of considerable benefit ; but there are some affections, in which they cannot be used, such as inflammation of the stomach and intestines ; but in inflammation of the lungs, of the throat, muscles, or surface, they may often be prescribed with benefit. The remedies usually employed for this purpose, are, small doses of emetics, given without drink. It must, however, be remembered, that these frequently produce considerable evacuations, either from the skin or bowels, and, therefore, may occasion a permanent weakness. We must likewise avoid raising the sickness to a great degree, and keeping it long up ; because the same objection applies nearly to this as to bleeding ad deliquium.

PURGING is frequently employed in the cure of inflammation, especially such purgatives as are called cooling, which,

in this case, is an imaginary quality ; but, unless in so far as they tend to abate the irritation of costiveness, they can do no more than bleeding can, and are, in many respects, inferior to it. They are, in one view, to be compared with the application of cold, which is only indicated when there is much heat ; both are intended to diminish action, chiefly by removing stimuli from the part to which they are applied. Purg- ing is very uncertain in the effects which it produces on the system, and in the degree of weakness which it causes ; and, therefore, never can be put in competition with bleeding, as a general remedy ; and, wherever bleeding is improper, or its propriety doubtful, purgatives are still more injurious. They operate likewise so slowly, at least comparatively speaking, that they do not influence the local action so much, as the loss of such a

quantity of blood, as would produce an equal effect on the body, will do; unless in particular cases, when they act upon the principle of the sympathy of equilibrium; as, for instance, in pulmonic inflammation, when they sometimes are of service, by increasing the action of the intestines, and diminishing that of the lungs *. In the same way, emetics sometimes cure slight inflammation of the tonsils. One of the best and pleasanter saline purgatives, is the phosphate of soda, which may be given to an adult in the dose of an ounce, in order to obviate the effects of costiveness. If we wish to use it, upon the principle of the sympathy of equilibrium, we must give two ounces, or more. The same cautions which were

* This action is, in this respect, similar to that of blis-

given, with regard to bleeding, apply also to purging.

SWEATING, considered as a mean of abating general action, is, in most cases, inferior to bleeding; and can never, when the general inflammatory action is considerable, be trusted to alone; but, after the use of the lancet, it is generally serviceable. It is useful, in particular, when the local disease is not confined to a small spot, but affects a considerable surface, or different parts of the body; as, for instance, in the rheumatism; but it acts, in these cases, rather by the sympathy of equilibrium, than by any other mode. At the same time, the induction of a sweat, preceded by bleeding, (which tends to abate the local action as well as the general one) will sometimes be useful, by giving a secretory termination to the general disease,

and hastening its conclusion. In the first point of view, sweating may be used early in the disease, especially if preceded by bleeding. In the second, it will be chiefly useful toward the end, as it will then accelerate the termination, and thus influence the local action ; for the abatement of the general action must also produce an abatement of the action of a particular part. Sweating, as well as purging, must be used with caution in weakly people, or in those who are reduced by disease ; because, although the action of particular parts may be increased by it, yet, partly in consequence of this temporary increase, and partly on account of the fluid which is discharged, general weakness is induced. One of the best sudorifics is the pulvis ipecacuanhæ comp. ; of which we may give ten grains every hour, until sweating be produced, giving warm lemonade alongst

with it. The tartar emetic is also a very useful sudorific ; the sixth part of a grain may be given every half hour, until the proper effect be produced *.

SOME of the agentes diffimiles may be considered as proper remedies in this complaint ; such as, digitalis, laurel water, lead, &c. : But they are certainly inferior to blood-letting ; and have been so little employed in this way, that their effects are not ascertained †.

BLEEDING, of all the general remedies, is the best ; and, next to that, cold, and nausea, which may be considered as

* One grain of emetic tartar may be dissolved in five ounces of saline julep, and a table spoonful given every half hour, as long as may be necessary.

† Some of these agents might perhaps only change the nature of the inflammation, and render it specific.

useful adjuvants.' Sweating and purging are mostly to be used when particular indications present themselves, as may be understood from what has been already said. The first of these remedies, act chiefly by producing an universal abatement of action ; and, of these, bleeding produces the most permanent effect on the body, and the most certain effect on the local disease. The two last are perhaps more useful, upon the principle of the sympathy of equilibrium, than that of abating action in general, which is only a secondary operation ; and, therefore, they may be considered as remedies, acting rather topically than generally ; for, according to this view, they act chiefly on the affected part. These two kinds of remedies may, in many cases, be usefully conjoined, producing thus a greater effect than either would do singly.

BEFORE quitting this subject, it may not be improper to attend to the proposal which has been made, of exhibiting anodynes immediately after bleeding, in order to remove the pain. “ The most
 “ effectual remedy for this purpose, (says
 “ Mr. Bell) is opium, which, when pain
 “ and irritation are considerable, as in
 “ extensive inflammations very frequent-
 “ ly happens, should never be omitted.
 “ In large wounds, especially after am-
 “ putations, and other capital operations,
 “ in punctures of all kinds too, large
 “ doses of opium are always attended
 “ with remarkably good effects. In all
 “ such cases, however, opium, in order
 “ to have a proper influence, should, as
 “ we have observed, be administered in
 “ full doses, otherwise, instead of prov-
 “ ing serviceable, it seems rather to have
 “ the contrary effect; a circumstance
 “ which is perhaps the chief reason why

“ opiates in general have been very unjustly condemned, in every case of inflammation.” That, in every case of inflammation, opiates are hurtful, is what no one can assert; and their utility will afterwards be fully manifested. But, that opium is useful, or even harmless, in the *inflammatio valida*, which we are at present considering, cannot be admitted; because daily experience, independent of every theory, proves, that, by their use, the general fever is increased, and the local action aggravated. Even given as a preventative of inflammation, after operations, anodynes are almost uniformly hurtful *, producing restlessness, heat,

* Opiates may indeed abate the smarting, or soreness, which is consequent to the immediate mechanical injury of wounds, or operations; but this relief is commonly only temporary; for the general action is very apt to be afterwards increased, and, consequently, union by adhesion is less likely to take place.

and thirst, and afterwards head-ache, sickness, and frequently troublesome vomiting. I have therefore now, after almost every operation, laid aside their use, and find, that the diseased action *, subsequent to the local irritation, runs its progress with much less disturbance, and is much milder, and shorter, than where anodynes have been administered; and, in general, the sleep is much more composed, and always more refreshing. I have therefore, after lithotomy, amputation, the extirpation of the mammæ,

* There are two general diseases which are connected with local actions, and which opium is supposed to cure, or prevent from taking place; the inflammatory fever, dependent on an wound, and the febrile state, consequent to a temporary increased action, or exertion of a particular part, or the whole of the system; as, for instance, the effect of parturition. The first of these is always aggravated by opium; the second, if it be not increased, cannot possibly be cured by it.

and after labours, in almost every instance, omitted them.

THE local applications are such as tend either simply to abate action in the part, or such as tend to change its nature, by exciting a specific change, or such as act in both ways. The first comprehends cold, the second the agenes dissimiles, and the third topical bleeding.

COLD, applied directly to the inflamed part, is a most useful remedy, diminishing the action to a natural state; but, for this purpose, it must not be applied in too great a degree, otherwise we diminish the action so much, and so suddenly, (and, consequently, the power of the part) that recovery cannot take place. If we apply much cold to a healthy part, we sink its action so far, that it is irre-

coverable ; if we apply cold to an inflamed part, so as to diminish its action equally suddenly, and in the same proportion, we produce the same effect. Poultices of ice, or snow, are therefore highly dangerous ; and even water, although it cannot be made nearly so cold as these. The same direction which has been given, with regard to the application of cold as a general remedy, ought also to be remembered, when we use it as a local application, namely, it ought to be carried just to such a degree, as shall diminish the morbid sensation, and ought to be so adjusted, as to keep the part nearly in its natural degree, or at least very little lower. For this purpose, it must be applied in moderation, repeatedly, and with assiduity ; and not, as is commonly done, in a considerable degree at once, and renewed only at long intervals. Cold has been supposed to be useful as an active

astringent, producing a contraction in the vessels ; but it does not seem to possess any active power in producing such a state in the vessels to which it is applied. Where injury is taking place, from excessive action, cold, by abating it, may strengthen, and produce more natural contractions ; but, when applied to a healthy part, it diminishes the action of that part, the blood is less forcibly circulated, and the part shrinks ; it therefore stops active hemorrhage in the part on which it acts. When cold is applied suddenly, or to delicate parts, it excites an universal action, or contraction, or shrinking, from weakness ; and, therefore, may likewise stop hemorrhage from distant parts. In many cases, when this shrinking, or temporary contraction, is suddenly induced by cold, it becomes converted into the natural muscular contraction of the part ; thus, for instance,

if cold be applied to the uterus itself*, when torpid, after delivery, we find, that, after the first effect, or shrinking of the vessels, a more natural contraction takes place. If, however, cold be long applied, we find, that the contraction thus induced ceases, owing to the diminution of action which is occasioned by its continuance, and the original state of collapse, or shrinking, alone remains.

BLISTERS likewise act by simply abating the action of the part; but differ from cold, in requiring to be applied, not to the part which is affected, but to some other, with which it exhibits the sympathy of equilibrium; as, for instance, to the integuments of the thorax,

* When applied to the skin of the abdomen, it acts chiefly by exciting action, on the principle of the sympathy of equilibrium.

in pulmonic inflammation ; to the skin of the knee, in affections of the joint, &c. It is, however, necessary, when a general disease, or fever, is induced, that bleeding be fully employed, before we have recourse to blistering ; because, if it be not, the inflammation, excited by the blister, co-operates to increase the fever, alongst with the original disease, which it has not had time to overcome, or lessen. Blistering likewise acts more effectually, when the local action has been already diminished, by previous bleeding. The size of the blister should be proportioned to the probable extent of the diseased action ; at the same time, we must set bounds to this magnitude ; because, if too large, they may not only produce, or keep up a general disease, but also, by lessening the action of the internal parts too much, and too quickly, they may

prevent recovery *. It is therefore better to apply them of a moderate size, and renew them frequently, than to apply one too large at once. It must, however, be remembered, that inflammations of every part are not equally readily overcome in this way; and, therefore, one will require a larger blister than another; thus, the same quantity of inflammatory action in the brain, will be more difficultly subdued, than in the breast; and, therefore, we must apply, in that case, a larger blister. As it is the inflammatory action, induced by the blister, and not the discharge, as was once supposed, which is useful, it follows, that the same blistered place should not be kept too long from healing, or in the

* Were this not the case, we should cure pulmonic inflammation, with the greatest certainty, by covering the whole thorax with a blister.

state of an issue, but that we ought rather to apply a succession of blisters; and this succession should be pretty rapid. There is indeed one case, in which issues are admissible, namely, where, from the nature of the inflamed part, or the peculiarity of the inflammation, if it be specific, or scrophulous, the progress of the action is very slow. In these cases, a rapid, and continued succession of blister would, doubtless, be most useful, but, from the duration of the treatment, would scarcely be submitted to: Issues, which are less painful, and less troublesome, are, therefore, generally preferred. We have an instance of this in many diseased joints.

THE remedies which tend to diminish the inflammatory action, by producing a peculiar, or specific change, are, the *agentes dissimiles*, of which, for this pur-

pose, lead is the best, and the one which is most frequently employed. Lead, in the state of an oxyde, was long ago used ; but it does not appear, in this condition, to have much activity ; and, therefore, the saline preparations are now introduced into use. The acetite of lead, on account of the supposed power of vegetable acids in abating inflammation, has been considered as possessing a great superiority over other forms ; but its chief recommendation over other soluble preparations, is its cheapness ; for the nitrate of lead seems to be equally powerful. The acetite of lead may be employed, either before or after crystallisation ; but, if we use the crystals, they must be redissolved ; for which purpose, soft, or distilled water, must be employed, otherwise a decomposition takes place. The strength of the solution which we apply, must be determined by the natural delicacy of

the part, and its morbid sensibility, in consequence of inflammation. In the inflammation *valida*, in which alone it is proper, the solution never ought to be so strong as to produce pain. When the eye, urethra, and other delicate parts, are inflamed, the application ought to be just so strong as to produce sensation, and should be very frequently repeated. When the cellular substance is inflamed, and we begin the application before the cutis be much affected, the solution will not require to be so strong as to produce sensation; because, were it to be so, the action excited might, from the quantity required to produce the effect, be so great, and so suddenly induced, that the powers of recovery would be lost, or a specific inflammation be occasioned, as we observe, when the solution is very much concentrated, in which case, even sloughs are sometimes produced. On the

same account, we must renew the application frequently, at least if we use pledgets, otherwise the evaporation of the solvent increases the strength more than we desire. For incipient phlegmon, we may employ a solution consisting of three pounds of rain or river water, and five drachms of sugar of lead; or the following, which is more elegant :

R. Cerussa Acetatae dr. iii fs.

Aceti Vini unc. iii. Solve super focum
dein adde.

Aq. Distill. Frigid. lb. i fs.

Aq. Rosar. unc. iv.

This may be applied by means of pledgets of linen; or part of it may be made into a poultice, with crum of stale bread.

SATURNINE poultices ought always to

be applied cold ; because we thus receive both the benefit of the cold, and of the lead. The directions which have already been given, with regard to the application of cold, are to be attended to here.

LEAD has been supposed to act as an astringent ; but, if astringents were useful, alum would be more effectual than any of the preparations of lead.

THE vegetable acids have been considered as sedatives, and are generally employed in the cure of inflammation ; but it would rather seem, as if they belonged to the class of agentes similes ; for, in moderate quantities, they increase the appetite, &c. which no sedative, or agens dissimilis, ever does * : They also excite

* Like other agents of this kind, they may kill speedily, if drunk in too great quantities ; and, after death, the

a general action, which is different from that induced by sedatives, and which is useful in curing many of the actions induced by these agents. We likewise find, that they are not serviceable, as local applications, in the cure of inflammation, unless in so far as they become the vehicle for applying cold. The surface is not very susceptible of their action; and, therefore, those who are inclined to continue their use, may do so without injury, and even with benefit, if they be cold; but then the same benefit will be derived from cold water.

ALCOHOL is likewise considered by some as a sedative, and introduced as a remedy, in the enumeration of those which are

vitality, from the previous great action, is found completely destroyed.

applicable in inflammation* ; but, whatever its use may be in the inflammatio debilis, it must be allowed to be evidently hurtful in the inflammatio valida.

THE last division of local application, contains those which tend, both simply to abate action in general, and also to excite, to a certain degree, a specific change of the action. Topical bleeding is the chief remedy belonging to this division. Bleeding with leeches, or the scarificator, is employed in two different circumstances : First, when we detract directly from the inflamed part ; as, for instance, from the surface of a phlegmon : Secondly, when we detract only from the neighbourhood of the inflamed part ; as, for instance, from the skin which covers an inflamed joint. When

* Hunter on Inflammation, p. 35.

we employ topical bleeding, in the first case, we may suppose, that the aperture, and effusion from the extremities of the inflamed vessels, produces, to a certain degree, a change of action. Every action of the vessels is performed at their extremities, and the trunks and branches may be considered as canals subservient to the extremities, and which contract and dilate, in a degree proportioned to the general and local action. If, during health, we open a number of the extremities of these vessels, we induce the hemorrhagic action, which continues longer or shorter, according to circumstances, and which gradually terminates in a ferous discharge, or secretion. If, during inflammation, we open a number of the extremities of vessels, either in the inflamed part, or immediately contiguous to it, we induce a similar hemorrhagic action, which is different from the inflam-

inflammatory one, and, therefore, tends to diminish that action in the part. We likewise, by inducing the serous secretion, tend to produce a termination to the inflammatory action.

TOPICAL bleeding will also, in part, operate, by simply abating the action, in consequence of the mere loss of blood; for, as the blood is withdrawn immediately, by different orifices, from the vessels of one part, that part, and those near it, may be supposed to suffer sooner, and to a greater degree, than the rest of the system. The branches which yield the blood, will even suffer considerably, for a time, although the loss of blood be very trifling, and produce no effect on the system. Thus, if one small artery be divided, we find, that, although the quantity of blood which flows from it be very inconsiderable, yet it is sufficient

to produce evident changes in that vessel, making it contract, and become smaller, although the vessels in other parts be not at all affected. This depends upon the peculiar * action of the individual artery being affected †, and the contracting state of the orifice, spreading along the branch and trunk by degrees ‡, by

* By peculiar action, I do not here mean what is commonly understood by the term specific, but the action which is proper to the artery, considered as an individual, in opposition to the action of the heart and arteries, considered in general as an entire circulating system; for one part of this system may act less powerfully than another, and may be more dilated, &c.

† The distance to which this will extend, depends chiefly upon the quantity of blood which is lost, and the size of the vessel which is affected.

‡ This depends upon the operation of the sympathy of association. Sympathy was, in the preliminary dissertation, divided into that of association, and that of equilibrium; and it was mentioned, that the same parts might

which less blood is made to circulate through it. Bleeding from a vein, however, has not the same effect; because the quantity of blood in a part, is not so immediately dependent upon the state of the veins; and because veins are not the seat of much action. When we divide a small vein, we find, that it, by degrees, contracts, and transmits less blood, or closes completely; but the blood from the part does not circulate faster, nor is less blood sent to that part than formerly; therefore, topical bleeding from

be made to exhibit either of these, but that naturally the sympathy of association is chiefly, and most easily exhibited by those parts which are similar in structure, and contiguous to each other; and, in them, the action spreads fastest. At the same time, if the action continues long, or be very strong, it may be propagated to dissimilar parts, and produce either a very extensive, or an universal action, which is just a greater degree of the sympathy of association. In this case, it has, however, been called universal sympathy.

veins near the affected part, can have no great superiority over general bleeding.

THE division, then, of a number of small arteries, may cure inflammation in two ways ; first, by inducing a different action ; secondly, by possessing the general properties of bleeding, namely, a simple diminution of action. The first will operate chiefly, when we apply the leeches on part of the inflamed portion. The second will operate, when we detract only from the immediate vicinity ; and, in this case, the quantity of blood which is taken away, must be greater ; because the effect has to be extended some way, the vessels not being in the inflamed part. The quantity must likewise be greater, because the effect depends entirely upon this ; whereas, in the other case, it depended, in part, upon the pe-

culiarity of the action which was produced.

THE number of leeches which it is necessary to apply, will depend upon the violence of the action, and the place on which they are set; for, the greater the distance from the inflamed part, the more numerous ought they to be. It is therefore impossible to give any particular rule for the extent of topical bleeding. It may, however, be proper to observe, that we ought not to be satisfied with one application, more than with one venesection, for a general disease, but ought to repeat the local bleeding, whenever it may be necessary, although it may be twice or thrice in a day, founding our indications upon the same principle on which we use general bleeding. It is by a too sparing application of leeches, and their not being repeated suf-

ficiently frequently, that we so often fail in removing inflammations, which, by a more active treatment, we might resolve. In general, the leeches ought to be applied as near the affected part as possible, or upon it. If, however, the seat of the inflammation be chiefly in the cutis, as in erysipelas, it will perhaps be more prudent not to apply them upon the spot ; because the subsequent irritation is apt to increase the action afterwards, on account of the great delicacy of the part. There may even be some doubt as to the propriety of applying leeches to the vicinity of the inflammation ; for the irritation of the bites may produce erysipelas in the part, or cause the original disease to spread.

THE scarificator may be used where leeches cannot be obtained ; but it is not so useful, when applied to the inflamed

part, on account of the irritation which attends its application, and the cupping; but it is equally proper, where we detract not from the part itself, but from its vicinity.

Of the topical remedies, bleeding is the most powerful; and, next to that, cold solutions of lead. Where these cannot be employed, owing to the internal situation of the inflamed part, blisters must be used in their place.

MANY other remedies used to be recommended, under the name of discutients, repellants, &c.; some of which have been formerly mentioned, when considering the ancient theories of inflammation; these, however, are now laid aside. But many practitioners still have an idea, that benefit will be derived from mechanically softening the parts by

means of oils, or what they call emollients ; and seem to consider, that poultices are chiefly useful for the same purpose ; at least they only direct, that they shall be removed before they turn “ stiff “ or hard.” But inflammation must be attributed to a different cause than increased attrition, and its cure must be effected by different agents from those which we employ for softening a piece of dead skin. Oils and liniments, in so far as they form a basis for other applications, or are used alongst with gentle friction, may be occasionally proper in the inflammatio assuefacta ; but, in the inflammatio valida, they must be considered as absolutely useless.

THERE are also some remedies, recommended with the intention of absorbing acrimonious excretions ; such as, flour or magnesia ; in erysipelas. But these

feem to act entirely by allowing the action to run its course, without interruption, affording a softer defence than could otherwise be obtained. From the quick progress of violent cuticular inflammation, the applications which are usually made in other inflammations have been forbid here, and are said to be pernicious; but this rather appears to arise from the application not being properly timed, than from any peculiarity in the disease. It is not easy to give any good reason why cold saturnine solution, of a proper weakness *, and sufficiently early

* The solution must, upon the principles already laid down, be both weak, and only so cold as to reduce the sensation of the part to its natural condition, that is to say, so as to abate the morbid feeling of heat; because, if we make it otherwise, we may injure the powers of recovery, and perhaps induce gangrene. The application ought not to be so cold as to excite the sensation of coldness, at least in any considerable degree.

applied, should not be useful; nor do we find, that they are in reality hurtful in simple erythema. Where this, however, attends wounds, or is not an original disease, these are improper; because it is in general, in these cases, an attendant upon the inflammatio debilis, or a symptom of it, and requires either to be let alone, or to have stimulating applications made to it, at the same time that we give bark internally*.

THESE remarks upon the resolution of the inflammatio valida, may be concluded, by observing, that the diet ought to be low and sparing, in a degree proportioned to the violence of the action.

* Bark is useful and necessary in every case of erysipelas, after the inflammatio valida has abated. Local applications, of a stimulating nature, are also useful at this period, as will afterwards be mentioned, when the inflammatio debilis comes to be considered.

Such motion as affects the local action, must at all times be prevented ; but when a general action likewise exists, then general quietude must also be insisted on.

Of the Remedies which are necessary for inducing Suppuration.

SUPPURATION is a new action, the exciting cause of which is inflammation ; but, that it may take place, it is requisite, that the inflammatory action be prevented from subsiding too soon, or too suddenly ; in which case, either resolution, or inflammatio assuescens, takes place : Whilst, on the other hand, we must prevent the action from rising too high, and proceeding too rapidly ; in which case, mortification is caused.

IN these cases, in which resolution

cannot be obtained, suppuration will generally take place, without any interference on our part, provided we prevent the action from terminating in gangrene. This we observe in many internal inflammations. At the same time, we may sometimes accelerate this process, by a proper regulation of the original action.

THE remedies proper for moderating and removing the inflammatory action, have been already mentioned ; but these sometimes fail to produce resolution ; in which case, either suppuration, or mortification, take place. When the symptoms of suppuration take place (which have been already noticed), all that is perhaps essentially necessary, is, to give up the resolving plan, and not interrupt the natural progress of the action. If, however, the inflammatory action con-

tinue longer stationary, and seem neither to be resolving, nor decidedly inducing the suppurative action, then such remedies as increase the action, and accelerate its progress, are essentially requisite. These remedies, however, are, in general, indiscriminately applied in both cases.

FOR the purpose of inducing, or accelerating the suppurative action, it was formerly the practice to apply liniments, cataplasms, and fomentations, composed of stimulating substances, such as garlic, turpentine, galbanum, &c.; but of late these have been almost entirely abandoned. Heat and electricity have the property of increasing the performance of every action which is existing at the time of their application, and, therefore, are the remedies chiefly to be employed in the present instance.

HEAT may be applied in two ways, with or without moisture. In the first, it increases action more suddenly, and perhaps more simply. In the second, its effects are more gradual, and are likewise complicated with those of moisture, which certainly is an agent capable of operating on the living system, and generally tends to excite a secretory action, or to give a secretory termination to those increased actions, which are induced by agents operating alongst with it. Dry heat is therefore evidently improper in the *inflammatio valida*, because it will tend to produce mortification ; but, if moisture be conjoined, then the suppurative action is excited. When, however, the action has made an approach to the *inflammatio assuefacta*, then it may be useful to raise the action simply by dry heat, for a little, before we apply heat and moisture ; because, if we apply moisture at first, the

progreſs is more tedious, and the action is leſs certainly excited *. Electricity is ſimilar in its operation to heat and dryneſs, and may be uſefully employed in ſimilar caſes ; but we muſt, if we expect any benefit, repeat its operation frequently, and continue each application for a conſiderable time †.

THERE are two forms in which we employ heat and moiſture, namely, fo-

* From what has been ſaid in the preliminary diſſertation, we may underſtand how moiſture ſhould tend to induce a ſecretion. Agents frequently excite conditions ſomewhat ſimilar to their general properties: Thus, putrid matter tends to induce the action of deſecp, and conſequent putrefaction. We likewiſe experimentally find, that, if moiſture be applied during a general increaſed action, it induces perſpiration, unleſs it be conjoined with cold, which leſſens the action.

† The proper way to uſe electricity, in this caſe, is to draw ſcintillæ from the part, the patient being inſulated.

mentations and poultices. Fomentations* have this superiority over poultices, that the same degree of heat is always kept up during their application ; whereas, when we use poultices, the heat subsides, as they are renewed only at considerable intervals ; but fomentations require longer attendance, and more trouble ; and, therefore, are only employed for a short time, and commonly betwixt the intervals at renewing the poultices.

POULTICES are generally made of bread and milk boiled together, so as to form a thick kind of paste, to which is added, so much olive oil as will pre-

* Fomentations are made, by applying a soft cloth, dipped in any warm fluid, (commonly water) to the part. Sometimes the cloth is wrung hard, in which case it is chiefly steam which is applied.

serve it from hardening quickly *. These ought to be applied, either of the same temperature with the inflamed part, or hotter, according to circumstances. When the inflammation seems to be naturally and quickly tending toward suppuration, it is, as has been already mentioned, by no means essential, that any application be made externally, in order to induce the suppurative action †; but still poultices are used, and, in many cases, accelerate the progress. In this case, the

* Poultices may also be made, by boiling pounded linseed-cake, or from potatoes, or mashed vegetable leaves (which are the cheapest for hospitals), such as tussilago, &c.

† The inflammatory action, when moderately strong, acts naturally as an exciting cause, inducing the purulent action, which is therefore said to be a termination of inflammation. It is therefore as unnecessary to interfere in the production of this secretion, when the action is of proper strength, &c. as it would be to attempt to increase, by local means, the vesication which is produced by a blister.

poultices should only be applied so hot as not to give any considerable sensation of heat, otherwise we increase the action too much, and too rapidly, and, if early employed, may even interrupt, or stop the incipient purulent action, renewing the inflammation, and perhaps making it terminate in partial gangrene. Poultices, then, should not be applied very hot at first, especially when the action seems to be such as to make us expect that it shall run its course without any assistance. But when the inflammatory action has been more tedious, and does not terminate in the suppurative one so soon, and so decidedly as we would wish, then poultices must be applied, with a dif-

Poultices are, in this condition, perhaps chiefly useful, by removing the causes which tend to abate the action at an improper time, such as those which produce resolution, as cold, &c.

ferent intention, being meant, not solely to prevent the action from sinking, as in the first case, but also to raise it, and make it brisker. The heat must therefore be greater, and such as to give a considerable sensation; and the poultices, instead of being changed only when they begin to grow hard *, which is perhaps all that is necessary in the first case, must be renewed very frequently, in order to keep up the increased degree of heat, or the agent which supports the action, and accelerates its progress. They ought, in this case, to be taken off and warmed, or renewed almost every hour, at least when the action is tedious, that is to say, when they are most required. We are then not to lay down any certain degree

* They keep up the heat of the part, and keep it moist until this happens, and prevent the action from flagging suddenly, which is all that is required of them, when the action is going on of itself in a proper degree.

of heat which is to be employed, nor fix any particular number of times at which the poultices must, in every instance, be changed, but regulate our practice entirely by the nature of each particular instance, taking the progress and degree of the action as our guide, in this respect, and interfering exactly in proportion to the necessity for interference. It may not, however, be improper to remark, that, *cæteris paribus*, the heat must be greater in proportion to the depth of the inflamed part below the skin; or, in other words, we must apply more heat, when we are obliged to act on a part not yet inflamed, than when we act directly on the inflamed part itself. When an abscess forms at a distance from the surface, the parts betwixt it and the surface gradually come, as was formerly mentioned, to assume the purulent action; and the sympathy of equilibrium, which

naturally exists betwixt the surface and the parts below, gives way to the sympathy of association *, the parts coming, by degrees, to perform one uniform action together, which spreads from within

* When two parts are affected at the same time, in consequence of an agent operating quickly on one of them, they commonly exhibit the sympathy of association, which takes place suddenly, but generally at first lasts only for a short time, if the parts be distant ; but, if the original disease still continue, it may spread, inch by inch, until it arrives at the part which was formerly affected, and which is again affected more permanently, by the same kind of sympathy taking place, but in a different way. In the first case, we have the *sympathia consociationis interrupta* ; in the second, the *sympathia consociationis serpens*. It is this last which is the cause of the extension of all action in a part, and which, when strongly excited, overcomes the natural tendency to the exhibition of the sympathy of equilibrium. It is, however, more difficult for local action to spread by degrees to parts which evince the sympathy of equilibrium than other parts ; and these, in general, are longer of being affected. Thus, when inflammation begins in the skin, it can much more easily spread along the skin than dip down to the muscles.

to without. When we apply heat to the surface, at this place, we, by continuance, likewise induce the sympathy of association, and the increased action spreads and operates on the disease; but there is this difference, that the action of the heat spreads from without to within, and thus accelerates the progress of the suppurative action.

WHEN the suppurative action has existed a certain time, we find, that it gradually extends itself to the skin, purulent matter being formed, instead of organic particles; on which account, the cavity enlarges, and the covering becomes daily thinner. At last, the action reaches even to the cutis, which becomes white and flaccid, first at a point, and then to a greater extent*. When this

* In proportion as the action extends outward, it also becomes more concentrated. An abscess is therefore some-

happens, the thin covering is either torn by the pressure of the contained fluid, acted on by the surrounding parts, or acting by its own weight; or, if this does not take place, the suppurative action still proceeds going through the cutis, the organisation of which, like that of the parts below, is lost: The thin cuticle now rises up into a little blister, and then gives way. The matter runs gradually out, the sides collapse, and come nearer by degrees to each other, at the same time that the ulcerative action succeeds to the suppurative. The quantity of the discharge, therefore, daily lessens; the internal surface, or sides of the abscess, come in contact; and the granu-

what conical, or at least hemispherical, the base being turned inward, and the apex outward. When the action reaches the surface, it is first at a single point; but, by degrees, it becomes extended, and the apex becomes broader.

lations at the margin or circumference unite ; those belonging to one side uniting with those of the other, and thus producing recovery by successive circles of reunion, which form rapidly, or more slowly, according to circumstances.

SUCH is the natural progress of an abscess ; but it has been proposed, that it ought not to be allowed to follow this, but ought to be opened before it bursts spontaneously ; and this opening has generally been desired to be pretty large, chiefly perhaps on the principle of allowing a free evacuation of the matter. Where abscesses are seated over cavities into which they may burst *, instead of opening externally, there can be no doubt of the necessity of making an early eva-

* Such as the thorax, trachea, &c. Instances have happened of suffocation being thus produced.

uation ; and, in these cases, we ought to open them before the skin becomes white ; or, in other words, before the action reaches the surface ; because, if the abscess be seated equally betwixt the skin and the cavity below, we may suppose, that, if it be extending itself in all directions, or toward the cavity *, in the same proportion as outwardly, that the

* Although, in general, an abscess has little tendency to extend itself deep down, but rather moves toward the surface, although so far from it originally, that, had the action extended equally in all other directions, the size of the abscess must have been immense ; yet, when it is situated over a cavity, it may proceed toward that as if to an external surface. Even, however, in this case, the general law, of all actions tending to the skin, obtains ; for the progress outward is much quicker than that inward ; but, if the action commenced near the surface of the cavity, as is commonly the case, the difference of the distance will compensate for the superior tendency to extend outward ; and, therefore, the abscess may burst at the internal surface into the cavity.

parts below will become almost irreparably diseased before it can reach the surface, and will give way afterwards*, even although an opening be made externally. Where, from the confinement of the matter, it seems to be spreading, or diffusing itself, by its gravity, through the cellular substance, or among the muscles, it will likewise be necessary to open the abscess early; but, in this case, the abscess is unhealthy; for, were it otherwise, the matter would be confined by the circle of diseased organic matter thrown out during the inflammatory action, and which is only removed gradually. In this case, the suppurative action has extended itself laterally, and perhaps

* In abscesses seated on the thorax, I have known the intercostal muscles and pleura continue the suppurative action, after the external surface had opened, and thus an opening came to be formed into the thorax.

downward, more quickly than in health, and has not observed the same ratio, with regard to the extension toward the surface; the action, therefore, reaches parts which were not formerly inflamed (by the *sympathia confociationis ferpens*), before the surface gives way; and, therefore, the matter spreads or diffuses itself; for, by the spreading of the action, the confining barrier is removed, and the matter mechanically extends itself. This is an unhealthy abscess, and the action is of the phagedenic nature. Opening the abscess will not always stop this morbid action; but, by removing the matter, it will lessen the chance of diffusion. We must, however, continue the free evacuation, and place the member in a proper posture; because, if the action continue, the matter which still is formed will lodge, and form sinuses.

IN healthy abscesses, where we do not apprehend any detriment to the neighbouring parts, the question comes to be, whether opening them will accelerate the cure? Perhaps much of the diversity of opinion on this subject, has arisen from not attending to the condition of the abscess which we have been managing, and thus we apply the prognosis and treatment of one kind of abscess to different ones. When an abscess has been formed slowly, and runs its course rather tediously, we may suppose, that the action shall continue for a considerable time without being converted into the ulcerative one; and, therefore, the abscess shall remain long without healing. In this case, a free incision, or the irritation of a foreign body, may excite the ulcerative action, and thus accelerate the cure; for these abscesses have come to approach toward the nature of common encysted tumors, and require

the same treatment. But, where abscesses are running their progress with due celerity, and the action is proceeding through its proper course, there is not the same cause for interference. If, in this case, we open them before the action has gained the surface, we derive no benefit; because the action still proceeds, and the same events and circumstances take place as if we had allowed it to burst. If we make a large aperture, when the abscess is ready to burst, we, by the irritation, interfere with the process which was going on, and delay the cure. The admission of the air to the abscess, owing to the free exposure, is one cause of this delay; for it changes the nature of the purulent action, and, if the ulcerative action takes place, frequently renders it unhealthy; the consequence of which, if the abscess be large, or situated in vital parts, is hectic. We likewise, in large

abscesses, by the sudden evacuation of the matter, and removal of the distension, sink the action of the parts, and make recovery more tedious *. When the abscess, then, is healthy, and the action strong, it will be more proper to allow it to follow its natural course, and burst spontaneously, than open it, by a large incision, or by the introduction of a seton: If we do open it, the orifice should not at first be large, but should just comprehend the diseased or whitened surface.

SOMETIMES, after an abscess has burst, or been opened, it continues in a progressive state of amendment for some time, and then becomes stationary, continuing to discharge matter without heal-

* This likewise affects the system, and produces syncope, if the mechanical support be withdrawn suddenly from the parts.

ing. This either takes place from the whole surface, or from a particular part of it, forming a sinus, the treatment of which will afterwards be mentioned, being the same with those which succeed abscesses which are originally unhealthy.

AFTER an abscess bursts, the proper application is a warm poultice*, which should be continued in general as long as there is any stool, or hard margin; that is to say, until the increased quantity of diseased organic particles, which were formed during the inflammation, be absorbed, and the vessels at that part have either assumed the suppurative or natural action. After this, the orifice ought to be covered with a slip of lint, and moderate pressure applied over the

* This poultice does not require to be so hot, nor changed so frequently, as before the full formation of matter.

surface of the abscess *, by which the sides are kept in constant contact, and reunion is accelerated. Good diet is also necessary, for we thus increase the powers of recovery, or keep up a proper action, and renew the vital principle, the quantity of which has been lessened during the inflammation, both by the continuance of a state of overaction, and by the remedies which are employed to diminish the action; for a state of real and permanent weakness is thus induced.

It sometimes happens, that suppuration takes place very slowly, and the action seems to be performed with little vigour. In this case, if the abscess be allowed to burst of itself, we both lose time, and are often, in the end, disap-

* If this produces pain, we may in general conclude that it has been used too soon.

pointed in a cure, the healing process not taking place. It is therefore useful, in these cases, to have recourse to other agents besides heat. If the pain be trifling, and the suppuration be what may be called chronic, or approaching to it, we will perhaps succeed, by applying gentle pressure on the abscess, by means of a thin roller, and laying a warm poultice over this. But, when this fails to increase the action, we ought to pass a seton, by which we evacuate the matter, and keep up the subsequent action to a degree sufficient for producing recovery. In doing this, however, it is necessary to attend to the state of the tumor; because, if, in every instance, we pass it from the highest to the lowest part, we shall sometimes make the part give way in a third place. If, for instance, the abscess be much thinner at the apex than elsewhere, or, if the action have made considerable

progress toward the surface, then the stimulus of the action increases the performance of the natural process which was going on, and the action continues to extend itself until the part gives way. In these cases, then, we ought to pass the seton from the thin part to the lowest part; and this, in general, will, from the sympathy of association, be sufficient to excite the action of the whole internal surface.

WHEN we resolve to use the seton, the following is the easiest method of introducing it: Make a puncture with a lancet either into the upper, or the thinnest, and most prominent part of the tumor, according to circumstances; and, into this puncture, introduce, using the lancet as a director, a probe, having a piece of tape passed through its eye. The lancet is then to be withdrawn, and the probe

pushed down to the under part of the abscess, where its point will be felt under the skin. A small incision is here to be made upon the knob of the probe, which is next to be passed through, and the tape drawn after it. The matter is then to be slowly pressed out; the tape is to be folded; and the abscess bound up with a compress and roller, so as to make moderate pressure upon it. Next day, the dressings are to be removed, and a clean piece of the tape drawn through, after which, pressure is again to be applied.

THE size of the tape, the time which the seton ought to be employed, and the degree of pressure to be used, must be regulated by backwardness of the action, and the imperfection of the healing process.

IF, either from improper management, or the morbid condition of the action, the abscess, after it bursts spontaneously, or is opened by art, continue to suppurate, without undergoing the ulcerative action preparatory to healing, then we find, that either the sides remain quite separate, producing a cavity, extended more or less, or one particular portion remains open, forming a sinus. Both of these cases require a treatment, which, in its principle, is the same, namely, the indication of the ulcerative action.

IN the first case *, we shall frequently succeed by means of the seton, especially if we use pressure alongst with it; for,

* This is exactly similar to an encysted tumor which has been opened, and requires the same treatment. The internal surface becomes thick and somewhat hard, like that of a cyst. It differs from an encysted tumor only in its cause and origin.

by keeping the internal surface in close contact, we tend to check the purulent, or suppurative action, and produce organic particles *. We may also succeed, by using stimulating injections, of such a strength as to produce a moderate degree of smarting. Of this kind are, wine and water, solutions of white vitriol, corrosive sublimate, &c. These ought to be used frequently in the course of the day, and pressure employed during the intervals. Incision, or laying the part open, is, being the most severe, the last remedy which is to be had recourse to. Small chronic abscesses may be laid open during their whole diameter ; but larger ones require only to be cut up for a certain length.

* If pressure be employed early, to a considerable degree, the irritation of the means employed produces pain, and a morbid increase of action, unless we keep down the action by cold, as will be explained when considering the treatment of ulcers.

THE second case, has generally been considered as a species of ulcer, and has been named the sinus ulcer; but, although the orifice may sometimes possess the diseased ulcerative action, yet the sinus itself still continues in the suppurative state, and, therefore, cannot heal. These sinuses depend, in different instances, upon very different causes, and, therefore, require a variation in the treatment. The most simple species of sinus may be called mechanical, and is produced by matter flowing from a neighbouring cavity, and which cannot be freely discharged: Thus, for instance, if a deep abscess open at the highest part, or at a point above the level of its bottom, the matter constantly oozes out, and keeps the canal open. This is most apt to occur, when abscesses are formed deep amongst muscular parts; in which case, although the matter point at the centre,

yet an accumulation must take place below, and the matter must continue to be discharged by the aperture, when it becomes so abundant as to be raised to the level of the opening ; or, being once raised, it continues to flow out. The cure of this may at first be attempted mechanically, by tight bandages, which press out the matter, and keep the sides in contact ; but, if the disease have been of long duration, then, whatever may have been its nature at first, we find, that the suppurative action extends along the mechanical sinus, which then becomes affected with a chronic action ; in which case, it becomes similar to the second species of sinus. We must, in this species, make an opening at the most dependent part, and employ the means which will be now mentioned in considering the second species, or that produced in consequence of the suppurative

action becoming chronic or habitual, independent of any mechanical cause. This may take place, although the aperture have been originally in a proper place, and the matter, instead of being retained and keeping up the disease, shall have been regularly discharged. The case in which this is most likely to happen, is that in which the abscess has been very tedious in its progress, and the action has been, from the first, slow. The distinction betwixt this species, and those which remain to be mentioned, is founded upon the absence of the symptoms which they possess, and by our examination with the probe, which points out the cause and extent, and informs us whether we be near a bone. The orifice is flabby, and has the appearance of the indolent ulcer. The cure of these sinuses is to be attempted, by pressing out the matter by means of proper bandages, or by making a dependent opening, which is generally necessary, at

the same time that we raise the action of the part to a proper degree, and render the suppurative action acute and vigorous; in which case, it naturally terminates in the ulcerative, and thus the part has its structure restored. This is most easily effected, by passing a seton, and applying a proper degree of pressure, diminishing the size of the seton gradually, and in proportion to the vigour of the action and the approximation toward health. When, from the situation of the sinus, we cannot pass a seton (which rarely happens in this species of sinus), injections of wine may be used frequently, and pressure applied during the intervals. When these means fail, which is seldom the case, the part should, if its structure permit, be laid open. If this sinus have remained long open, its surface, like that of the chronic abscess, becomes changed, and a coat is formed, like the cyst of a tumour. When

this is thick and hard, the sinus has been called a fistula, and it has been deemed necessary to dissect out the tube ; but it is in general sufficient to use the remedies which increase the vigour of the action, and make it run its natural progress ; such as the seton, or a free incision, if the parts be superficial, or no considerable vessel or nerve runs the risk of being wounded.

THE third species of sinus is that in which the suppurative action is kept up by the operation of some adventitious cause ; such as a caries bone, diseased cartilage, or the lodgement of a foreign body ; as, for instance, a ball, a splinter of wood, bit of cloth, &c. This species is distinguished by our feeling the extraneous body, or diseased bone, with the probe, and by the fungous protuberance, or papilla, which shoots out from the

orifice. In addition to the method of curing other sinuses, we must here endeavour to remove the adventitious cause, which is generally very difficult to be done. If the foreign body be deep, or if the diseased bone lie deep, and the sinus be narrow, we can do little in this way; sometimes, indeed, by enlarging the external part, we can come at the foreign body with a pair of small forceps, and may extract it, or may accelerate the exfoliation of the diseased bone; but we can have no certainty of success. If, however, the sinus be superficial, which sometimes happens in caries of the tibia, &c. it ought, in every instance, to be fully laid open, and the bone exposed, and treated in the way immediately to be mentioned. When this cannot be done, we may sometimes, by conveying the proper remedies through a tube down to the bone, procure exfolia-

tion ; or may, by setons, injections, and pressure, procure a temporary cure ; but, as long as the adventitious cause remains, we cannot expect a permanent recovery. It is observed, that sinuses, when they can be healed in these circumstances, break out again upon very trifling exertions, and very frequently are renewed, after a short interval, in spite of all our precautions ; such as rest, warmth, &c.

A **CARIES** * of the bone is at all times a disease which is difficult to manage, both on account of the mechanical ob-

* When a bone becomes carious, the periosteum is completely detached, and, therefore, it is felt to be rough by the probe. Its colour becomes first of a dull white, or dirty yellow, which it either preserves, or changes for the intermediate hues betwixt these and black. It is generally more porous than formerly, and lighter ; but these qualities vary, from very slight degrees, to the appearance of a light coralline.

obstacles which we have to overcome, and the slowness with which the affected parts perform their actions either of disease or recovery. The divisions of this disease have generally been taken from the appearance of the caries, and its extent. We have the dry caries, the worm-eaten caries, the spongy, or carious caries, &c. and we have the deep and superficial. But, as the cure of these is to be conducted on the same principles in all of them, and as they are most probably different degrees of the same complaint, it will be more useful to divide them into those which affect bones lying deeply, and those which affect the more superficial bones ; because these different cases are attended with very different circumstances and symptoms. The first is preceded by an abscess, which forms generally with much pain, runs its course slowly, and does not burst for a considerable time.

When it does open, its sides do not ulcerate, at least universally, but a sinus remains, the mouth, or exposed part of which only, assumes the ulcerative action. The second is more rarely preceded by any abscess, but is either coeval with the ulcer of soft parts, (both being produced by mechanical violence) or it succeeds the ulcer, and is caused by it. This ulcer belongs to the third genus, and will be afterwards described.

IN treating of the cure of caries, the first thing is, to determine by what means the disease of the bone may be removed; and, secondly, what modification our treatment must undergo, in consequence of the caries belonging to the first or second species. From the very earliest periods, we find the application of stimulating and corrosive remedies recommended in this disease. The actual

cautery, euphorbium, mineral acids, scalding oil, the essential oils, and warm balsams, have been universally employed, and frequently alternated with rasping and perforating the bone. This proceeded from observing, that, on the one hand, mild applications had no effect, and, on the other, that the natural slowness of exfoliation was overcome by the use of these more powerful remedies. A caries of a bone is correspondent to a mortification of a soft part; and, therefore, it is impossible to restore the diseased part to health, or life. Our chief object, then, must be to prevent the disease from spreading, and to procure a speedy separation of the dead portion. The first is much less under our power than the second; for, it is most probable, that, in the majority of instances, at least of those of a simple nature, the disease, from the first, extends a certain length, affecting a portion of

the bone, and that it afterwards makes very little progress. There is, however, a specific disease which affects the bone in common with the soft parts. The bone becomes rough, and suppurates; and the soft parts have a fiery appearance: This has been called the phagedenic caries. Cancer, scrophula, lues, and other specific actions, also spread after they are once induced. The second object is to be effected by such means as operate upon the vitality and action of the part, and those which act mechanically. Those which tend mechanically to remove the dead portion, are perforations down to the sound part, which we know has happened, by the bleeding which ensues; or, we may saw down this length with a trephine. We thus, by cutting off the communication of part of the diseased surface with the adjacent parts, kill it completely, sooner than

could otherwise happen, and likewise stimulate the parts below to assume the ulcerative action, and throw it off. We may also sometimes be able to turn out these portions with a levator. Those which act more exclusively, by affecting the action of the part, are stimulating applications ; such as heat, acids, &c. The actual cautery is so terrifying to the patient, that it is now laid aside ; and it is likewise liable to this objection, that it may, by its operation on the neighbouring parts of the bone, produce disease in them. The potential cautery is more useful, and may frequently be employed with advantage, either in a solid form, as to callus, &c. or dissolved in water, and applied with a pencil *. M. Sue, in his

* If we use the solution, we must, if the bone be very porous, or spongy, apply only a little at once, otherwise it may sink down, and injure a part which we do not wish to act on.

notes to Ravaton's *Practique*, &c. recommends l' eau mercurielle, or solution of mercury, in nitrous acid. By these means, the sound part below assumes the ulcerative action, its connection with the diseased portion is then destroyed, and reparation takes place. The ulcer of the bone is red, and its surface covered with innumerable granulations, which rise up to the level of the surrounding parts, after which a cicatrice is formed. These granulations in the bone are absorbed, and others more perfect are deposited in their place, until at last they become completely osseous*.

* There is a curious case of caries, which is frequently met with: The diseased part, instead of being cast off, is surrounded by a covering of new bone, (except at one portion, where a sinus and ulcer is formed in the soft parts) and may be felt rattling within it. In this case, there is necessarily a permanent enlargement of the part, from the additional bony matter; and this, together with the sinus

THE next point which merits our attention, is the situation of the bone, and the circumstances which attend the caries. When superficial, a fungous ulcer is produced, and the modification which this situation requires in the application of the general plan will come afterwards to be attended to; the modification in the treatment which is required in sinuses has been mentioned above. It may here only be remarked, that, where the sinuses are superficial, they may be laid open, which will induce the ulcerative

openings, and the internal caries, being felt with the probe, form the character of the disease, which has been called *necrosis*, a term which formerly implied merely mortification. The cure of this complaint is to be accomplished by extracting the diseased part, when it becomes loose, if the opening in the case be sufficiently large; if not, it is to be enlarged with the trephine, &c. See the works of Ruysch, Default, &c.; and, more lately, the publication of Mr. Ruffel.

action in their course, and allow us to apply the proper remedies to the bone ; but where they run deep, we must either allow the disease to run its natural progress, and treat the constitution according to the effects produced, or, by means of a canula, convey a piece of caustic to the diseased part, in the same way as we treat obstinate strictures of the urethra, &c. When, with the probe, we feel the bone loose, we may assist its exit with the forceps, or by enlarging part of the sinus, according to circumstances.

WHEN these sinuses communicate with joints, and depend upon diseased cartilages, tendons, or articulating surfaces of the bones, we can do very little in the way of curing them by injections or incisions ; because we cannot thus remove the disease of the joint, but may increase it. Issues placed over the joint, with

rest, cleanliness, and good diet, country air, &c. are the remedies chiefly to be employed in these cases; or, if hectic be induced, and these remedies fail, we must remove the diseased part, if this, on account of its situation, be practicable. When, however, these sinuses are superficial, and depend upon tendons not immediately connected with the articulation, it may be useful to lay them open, and treat the disease of the tendons with caustic, like a caries of a bone, or with escharotics, and stimulating applications.

THE fourth species of sinuses, are those where a specific action exists*, and prevents the healthy ulcerative action from forming. Of this kind is the scrophulous sinus, which is generally accompanied with a

* These sinuses cannot be considered in this dissertation.

caries bone, or diseased cartilage, and, therefore, is a complicated sinus *. This is distinguished, where the bone is diseased, by a shining or polished red skin, like a cicatrix, surrounding the fungus papilla at the orifice of the sinus, or the scrophulous-looking sore which exists there. When no caries bone exists, we have no papilla, but only the diseased ulcer at the orifice. In both cases, there are generally the marks of a scrophulous habit. In the first case, we are to treat the sinus as if it were of the third species. In the second case, we are to treat it as if of the second, conjoining the proper remedies internally, as will be mentioned in considering the cure of scrophulous action. These sinuses, although

* This may sometimes be produced by the formation of an abscess, without any evident cause; but at other times it is produced by wounds, &c. in scrophulous habits.

healed, have a tendency to break out again, especially in the spring or summer.

THE effects of the suppurative action upon the constitution, may be divided into those which are dependent upon the formation of the action, such as coldness, listlessness, &c. which are common to all new actions; and those which are peculiar to the action when fully formed. The first set requires no particular treatment, with an immediate reference to their removal; but their presence indicates the necessity of changing our method of cure, if we have not already done so. In conjunction with proper local applications, we must give light nourishing diet, with or without wine, according to the extent of the action and the weakness of the patient. Rest, and general warmth, are also necessary; but

the heat ought not to be carried so far as to produce any considerable sensation, or sweating. Diaphoretics have been recommended *; but there does not appear to be any necessity for their exhibition; because the cold, and other symptoms which we intend to relieve, depend upon the state of the local action, and are only to be removed by fully forming this action. Heat will not cure this coldness, or shivering, when the action which causes it is extensive; but, on the contrary, will frequently increase it, by accelerating the formative process. The immediate effects, then, or the primary symptoms of suppuration, require no particular treatment, with a view to their own removal,

* Mr. Hunter supposes that these are useful, "because they endeavour to keep up an universal harmony, by putting the skin in good humour, which quiets every sympathising part, and by counteracting the effects of irritability." P. 381.

but are to be attended to as marks which point out the necessity of a change of treatment, with a view to keep up the action which induces them, and to prevent it from producing bad consequences afterwards to the constitution. Sometimes, indeed, in delicate people, suppuration at this period produces hysterical symptoms, such as languor, flatulence, or sometimes starting, tremors, and hysteric paroxysms, more or less distinct. The slighter affections of this kind may be frequently removed by a little warm wine and water; the more severe, by anodynes, conjoined with aromatic waters.

THE second set of symptoms, or effects, are those which have been already described under the name of hectic, the production of which has formerly been explained. This action, when slight, has been called weakness, and has been con-

sidered as dependent upon the quantity of the discharge ; but, for the reasons formerly mentioned, this cannot be admitted. The cure of this state is to be attempted, by lessening the local action, at the same time that we give soups, and other articles of nourishing diet, with a moderate proportion of wine, if this do not quicken the pulse, and produce heat of the skin. Anodynes in the evening, by procuring rest, will also be useful ; but none of these remedies will produce their proper effect, unless the patient respire a pure air. Bark is considered as useful in these cases ; but, unless good diet be conjoined, it is not of much benefit. If, however, we give the means of increasing the quantity of vital power, bark, by inducing an action more nearly resembling the natural one, will be serviceable ; but, for this purpose, it must be exhibited in full doses. It is

from giving this medicine too sparingly, and in cases where other causes, tending to counteract its effects, such as poor diet, bad air, &c. are allowed to remain and operate, that bark has been brought into disrepute.

WHEN the general action is very considerable, then the exquisite hectic is induced, and the situation of the patient becomes alarming. When the local action is simply the suppurative or ulcerative action, we may consider that the general disease is also simple, and are to attempt the cure by the remedies which have been just now mentioned. In conjunction with such local applications as tend to check the local action, we must have recourse to all those means which tend to strengthen or renew the natural action of the system in general; for which purpose, we must attend, in the first place,

to all the particular functions, or individual parts ; and, in the second, to the whole in the aggregate. Under the second head are included bark and wine, with moderate . exercise *, and proper diet ; in the choice of which, we must be directed by the nourishment which is yielded, and by the capability of digesting the articles which we employ. In general, milk, soups, and jellies, answer best. Under the first head are included such remedies as tend to promote digestion, such as steel, bitters, mineral acids, &c. although in general the bark will supersede their use. The state of the bowels must also be attended to, avoiding costiveness on the one hand, and di-

* Exercise may be used either on foot, or on horseback, or in a carriage ; and its degree must be regulated by the strength. There are few patients who cannot bear moderate exercise (were it no more than walking half a minute in a garden), and who will not be the better of this.

arrhœa on the other. The secretion of the skin must also be regulated, stopping the colliquative sweating, if possible, by getting up for some time when it commences *. Lessening the quantity of bed-clothes, for a few minutes, will also sometimes interrupt it ; but when it has continued long, it can only be checked by removing the diseased action †. A full dose of the bark given before the accession of the sweat, may sometimes, by influencing the morbid action, prevent the discharge. The respiration must in particular be attended to ; for, by breathing country and pure air, the action of respiration is more fully performed, and, consequently, the source of vi-

* Acids are supposed to check it ; but they can only act by increasing the strength in a secondary way.

† Sweating is perhaps to the general hectic action what the suppuration is to the local one ; and, therefore, can only be stopped by influencing this action.

talities is increased, and the effects of our other remedies are increased. The importance of a change of air can only be known by those who have observed how fast patients have recovered from operations when removed to the country, and clean lodgings; with well-aired beds, although before this they were daily sinking. Indeed no capital operation, which is likely to induce the suppurative action, ought to be performed, where cleanliness, and a free circulation of air, free from fœtor, cannot be procured.

It is not yet discovered that any remedy has a specific power of removing the hectic, or diseased formative action, more than the local purulent one * ; and,

* A diet solely animal has been proposed in that peculiar species of hectic which accompanies diabetes ; but whether it would be equally useful in other species remains to be determined.

therefore, we are obliged solely to trust to these already mentioned, which have a natural tendency to increase the healthy action, or induce one nearly similar to it, and especially to a proper local treatment, by which we remove the exciting cause.

WHEN these remedies fail, and the disease seems to continue, or increase, in spite both of general and local remedies, then we must, if it be practicable, remove the diseased part by an operation; and, in doing so, we must remember, that delay beyond a certain period is dangerous; because the general action becomes so rooted, and the strength so reduced, that recovery cannot take place. Operating in these circumstances, therefore, can only hasten death. The wound will not unite nor heal, and the general action will continue unabated.

WHEN the local action is specific, the general one is also different from the simple hectic; and, therefore the remedies which are useful in simple hectic will not be of equal advantage in these cases, unless a specific remedy be conjoined, as, for instance, mercury prudently exhibited in the venereal hectic, dependent upon a neglected local complaint. The most frequent instance of specific hectic is the scrophulous; for the cure of which we possess no remedy which acts with certainty. Whenever, therefore, the local complaint cannot be cured, and the hectic increases, we must, if possible, remove the diseased part*; after which,

* When this disease attacks the lungs, as it too frequently does, then, until a specific remedy for scrophula be discovered, no cure can be obtained. Simple ulceration, or suppuration of the lungs, however, and consequent hectic, may be cured, though not in every instance.

the general action, notwithstanding its specific nature, most commonly declines ; but the constitution still remains, as formerly, scrophulous, or even more so than before. That this is the case, would appear from the following fact : If a person slightly scrophulous, although originally sprung from a scrophulous stock, or in whom the constitutional disease seems to be disappearing, in consequence of intermarriages, &c. has, by means of a local injury done to a joint, &c. the scrophulous action excited, and consequent hectic, that person will, after cure, have the tendency to scrophula stronger in him than formerly ; and the disease will even frequently be communicated to his children with its original violence.

Of the Treatment of the Ulcerative Action.

SUPPURATION is a natural termination of inflammation ; and the ulcerative action is invariably induced by the suppurative, unless this remain chronic. The ulcerative action is to be considered as in part a restoration of the natural one ; for we find, that it produces a restoration of the structure, granulations being formed by the vessels which formerly supplied the organic particles, whilst the interstitial vessels still yield a morbid fluid, called pus ; but this they cease to do, whenever they again are placed in the natural situation ; that is to say, whenever they become covered with the granulations, or are rendered interstitial. In proportion, then, as granulations are formed, a certain number of vessels are rendered in-

terstitial, so that the discharge gradually diminishes, until at last it ceases; for, when we come to the formation of a cuticle, we have very few interstitial vessels left, the skin having naturally few. At this time, the one set of vessels having completed their action, and the part being restored, the other also resume their action, and a thin exhalent fluid is thrown out by the new cuticle, which keeps it soft and moist, and which is the natural insensible perspiration. The action of the two sets of vessels, then, is dependent on each other; and, whenever one is diseased, the other becomes also more or less so.

GENUS I.

Of the Healthy Ulcer.

FROM these remarks, as well as from those which were formerly made, it will

appear, that a healthy ulcer has a natural tendency to heal, and that we ought only to be careful not to interrupt the natural progress, nor allow the action to flag.

IN this genus of ulcers, the bottom of the sore seems to be paved with a number of small fleshy points, with minute interstices betwixt them, or surrounding their bases. These are of a red colour, with a slight shade of the purple, and are wet with a yellowish fluid, which is called pus; but which must of necessity differ from the fluid yielded by supuration. This separates freely from the surface, when it is wiped or touched with a sponge, and then the granulations may be distinctly observed*. The margins

* Whenever the discharge does not separate completely from the surface, when it is wiped, but part of it remains,

are smooth, thin, and a very little rounded, that is to say, are almost imperceptibly raised above the granulations, a circumstance which is essential to this ulcer, because, were they both on the same level, it would show, that the cicatrizing process did not go on properly; for, whenever the granulations rise to the level of the surface, they ought instantly to form skin. This cicatrix, which extends gradually from the circumference to the centre, is of a pale red colour; but the integuments immediately beyond it are white, and of the natural appearance. Sometimes, from a slight deviation or imperfection, one spot of the disk rises to the level sooner than the rest; but, in this case, it immediately skins, and the cicatrix extends from this in the same

like a film, or jelly, betwixt the granulations, or on particular spots, we may be sure that the action is not healthy.

way as from the circumference, until they both meet. The fore is free from pain, the only sensation being a slight degree of smarting, or itchiness.

THE treatment of this ulcer is very simple ; for, in most cases, it is only essentially necessary that we prevent the operation of hurtful causes. We defend the part, by covering it with a soft pledget of lint, and keep it warm. When the cicatrization has commenced, it may be assisted by using an ointment containing any harmless powder, in such a proportion as to form a paste or scab upon the part *, by which we afford an artificial

* Simple ointment, rubbed up with a fourth part of its weight of finely levigated calamine, or flowers of zinc, makes a useful application. Mr. Bell recommends, amongst other remedies, a saturnine ointment ; but, if this produces any specific operation, it must be a hurtful one, injuring the action.

covering, which remains in close contact with the granulations ; and, by thus bringing them nearly into the same circumstances as when skin is formed, the cicatrizing action is accelerated. The same effect is sometimes produced, by allowing the pus to form a scab over superficial sores, by exposing them to the air, without any covering.

DRY lint is a very useful application ; but, as it is apt to stick to the granulations, and tear them, when tender, it ought always to be well moistened before removal, which should be attempted slowly.

MILD ointments, such as the simple cerate, are frequently employed ; but they must be free from all rancidity, otherwise they fret the skin, or injure the sore. In general, they are less useful than

dry lint. When we do employ them, they ought to be applied only to the granulations and cicatrix, and not to the sound skin. More frequently we use these ointments spread on a pledget of linen, to keep the dry lint on the sore.

POULTICES are also recommended in these cases ; but they possess no peculiar advantage, and are apt to make the part feeble, and more likely to break out again.

MODERATE pressure, by keeping up the action, is generally of service ; but it is still more necessary when the action begins to flag, or becomes stationary. In this case, a compress ought to be placed over the sore, and the whole member rolled firmly round with a cotton bandage ; or, what will be still more useful, the part should be encircled with strips,

spread with adhesive plaster, in the way which will afterwards be mentioned. Pressure acts by taking away the condition of vacuity ; it forms an artificial covering and interstices for the superficial granulations, by which the natural process of forming granulation and skin is greatly assisted. The parts are, in this way, not only more quickly formed, but also in greater perfection ; and their powers of action are greater. The cure is therefore more permanent, and the part is not so apt to die, or ulcerate again, as when healed with simple dressings.

THIS practice, which is useful in ulcers which from the first are healthy, is still more necessary in curing those which were formerly diseased, but have now become healthy ; because, in them, the action is still more apt to flag.

THE healing of large healthy ulcers which succeed to wounds, &c. will also be much hastened, if we artificially diminish the size of the cavity, and procure contact. Whenever one part can be brought in contact with another, it ought to be done, if the figure and functions of the part be not thereby injured, or if pain be not produced by doing so.

THE older authors, from a mistaken theory, never allowed the action to proceed uninterrupted, or never co-operated with it in a rational manner. In every ulcer, it was necessary, first, to digest, or suppurate it, which was done with turpentine, or basilicon; next it was to be deterged with turpentine, mixed with yolk of eggs, or by the red precipitate; then it was to be incarnated by sarcotics, such as tincture of myrrh and aloes, balsam of Peru, frankincense, &c.; lastly,

the surface was to be dried into a callus, with dragon's blood, white-lead, chalk, &c. These plans have, however, been long laid aside; but some practitioners still advise the use of styptics and spirit of wine to produce a cicatrix; they forget, however, that skin is formed by a different process than corrugation.

THE diet ought to be good, in all cases of ulcers; but spiritous liquors, and the irregularities of life, must be avoided.

IN ulcers of the legs, if pressure be employed, rest is not absolutely requisite; but, if this be not used, no cure can be obtained, if the patient walk about. Even if the adhesive plaster be applied, we ought not to allow of so much motion as to produce fatigue, or any uneasiness in the fore.

THE treatment, then, of this genus of ulcers, may be comprised in two aphorisms.

FIRST, When the action is, from the first, healthy and vigorous, and is continuing so, all which is essentially necessary, is to defend the part, and prevent the operation of any cause which might injure the action, such as cold, too much heat, mechanical irritation, &c. This may be done, by applying a bit of dry lint, or a rag spread with simple ointment, and wrapping the limb round with a flannel roller. But, if the action begins to flag, as it often does in large ulcers, or if the process become stationary, we must then indispenfibly have recourse to gentle pressure.

SECOND, When the action has, at any

one period, been diseased, or too low, but has been restored to a proper state, we must of necessity continue gentle pressure, and treat the force as if the action were stationary, although it may not be so.

GENUS II.

Of the Indolent Ulcer.

IN this genus, the action is diminished, and, consequently, rendered imperfect and diseased.

INDOLENT ulcers, like those of the next genus, are divisible into two species: First, that in which both parts of the ulcerative action, namely, the granulating and purulent, are equally diseased, and equally imperfectly performed: Second,

that in which one part is more affected than another*.

THE first species is distinguished by the following symptoms, which appear in greater or less degrees, according to the diminution and imperfection of the action.

THE granulations are pale, and imperfectly formed, partaking less of the firmness and organisation of the healthy fleshy granulations in proportion to the affection of the action. They are obtuse, and scarcely at all elevated; and,

* The circumstance of one part of an ulcer being more affected than another, will be more fully noticed in considering the next genus, in which it is of more practical consequence. Ulcers generally belong to this species, before they assume the characters of the second (for they frequently change from one species, or genus, to another; in which case, the treatment must also be changed).

therefore, the surface loses its dotted, or red-pointed appearance. The discharge is thin, and of a whitish colour, at the same time that we frequently observe isolated spots of lymph interwoven here and there with the imperfect granulations. Although these granulations are said not to be elevated, yet the surface often exhibits a species of fungus; but the individual granulations are not elevated, or pointed. This fungus never rises higher than the twentieth part of an inch above the level of the surrounding skin*, and often appears only at particular parts of the surface. It is pale, and somewhat of a gelatinous appearance. The pain is trifling.

* The cause why these granulations rise, even this trifling height, above the level of the skin, is the indolence of the action, which prevents a cuticle from being formed in due time.

IN more advanced cases, the whole disk is covered with a thin layer of lymphatic substance, which adheres firmly, and gives the idea of a thin pellicle being thrown over the granulations, which are seen imperfectly and irregularly through it. The discharge is generally thin, like serum, and considerable *. The edges are hard and tumefied, sometimes of a light purple colour, at other times white †. The surrounding integuments are also hard and thickened, at least in old ulcers, and the veins are generally more or less varicose.

* Indolence of the action does not imply that the quantity of a discharge should be lessened, but only that its nature should be changed. In this species, the discharge is much the same in quantity as in a healthy ulcer of the same size, but its perfection is greatly less.

† Sometimes the granulating action and the cicatrizing one seems to be confounded, the surface exhibiting a fibrous fleshy appearance. This I have seen most frequently in the calf of the leg; but it may occur in other parts.

THESE appearances vary in degree from the soft pale surface, and thin whitish purulent discharge, with slightly thickened edges, to the state now described. The pain, when compared to the size of the ulcer, is not considerable.

THIS genus may occur, in a slight degree, in recent sores, from neglect, &c. ; but it is chiefly after ulcers have been of long standing, that they assume these appearances in the greatest degree. They may then be said to have become chronic, or habitual ; and, in many instances, it is absolutely impossible to restore the action to its natural state, and produce recovery*.

* These ulcers, after long continuance, frequently induce a disease in the bones or muscles seated below them, as will afterwards be mentioned.

THE second species is distinguished by the paleness and imperfection of the granulations, whilst the discharge is tolerably good ; but it never can be equal to that of the healthy ulcer ; because, when one part of the action is affected, the other is also more or less affected. This species does not require any more particular observation or remark, because it is to be treated exactly as the first, of which it is often just a slighter degree, or a forerunner ; for it is frequently the first change which takes place in a healthy ulcer. When it becomes diseased, it does not continue long ; for both parts soon come to suffer in the same proportion ; in which case, the ulcer belongs to the first species. For this reason, we never find old ulcers belonging to this species.

CHRONIC ulcers sometimes induce a disease of the bones, &c. below ; but, in

this case, they generally are converted into a different genus. They also come naturally, in consequence of the great imperfection of their action, and the consequent want of power, to act beyond the due proportion betwixt action and power; and, therefore, most ulcers of this genus come at last, if neglected, to belong to the next.

THE most effectual remedy for these ulcers is pressure. This has been long employed, by means of tight rollers wound round the limb, or by the laced stocking. But, of late, a more effectual method has been proposed, namely, a bandage of adhesive plaster, which applies itself closely to the surface, and produces a state of artificial contact and covering. This has been recommended by Dr. Darwin in the form of a many-tailed bandage, and by Mr. Baynton in the

form of strips, wrapped round the limb. The following is the method of applying them : A strip of adhesive plaster, about an inch broad, and so long as to encircle the limb and cross at each end, is to be warmed, and the middle of it applied to that part of the limb which is exactly opposite to the fore ; both ends are now to be brought forward, and one of them laid tightly over the under part of the fore (if it be so large as not to be covered with one strip), whilst the other is brought firmly over this from the opposite side, and doubled down upon it. The ends of the strip thus fold over each other at the ulcer. Another strip is then to be applied to the part of the fore contiguous to this which is not yet covered, and so on in succession, until the whole be covered. This is the best way of applying the strips, if the integuments be firm ; but, if they be loose and yielding,

it will be useful to push forward the loose skin from behind, with the strips, as we bring them forward ; and, instead of laying down first one end, and then the other over it, make the two ends cross each other at the same time, and lay them down upon the skin, and not on each other, the under end covering the lower part of the sore, and the upper the part next it. The same strip, therefore, covers two portions of the surface, whereas, in the first way, it covered only one ; but, in this case, the strip must be longer, as it must fairly cross the ulcer on each side, and be retained by sticking to the adjacent skin. When the ulcer is deep, the strip will press only on the margins ; and, therefore, it will be useful to fill up the surface with a fold of soft lint. A thin cotton roller is now to be wound firmly round the limb, beginning at the extremity, and continuing

the bandage to the next joint above the fore.

By this contrivance, we obtain a firm covering to the granulations, and bring a substance in contact with each individual. We then restore, as it were, the natural state of the parts, each granulation having a substance in contact with it; and a slight interstice is left between each, owing to their pointed structure. They become, therefore, similar, in this respect, to the organic particles of internal parts; on which account, healing goes on more quickly, and the organic particles, or granulations, are deposited in greater perfection, and with greater powers of action; for the unusual and morbid condition of exposure and want of contact is now removed. The same circumstances promote cicatrization, when the granulations have risen to a proper

height. This is more evidently seen in the cure which is effected of the smaller ulcers, by dusting them with chalk, &c. or dressing them with an ointment made thick with some mild powder, by which a scab, or covering, is formed, which operates clearly independently of pressure. Pressure, applied with this view, ought to be moderate and permanent, and may be used with utility in almost every case of solution of continuity, however healthy the action may be. But, besides being of use in this way, pressure also produces a second set of effects, by mechanically exciting action in the part to which it is applied. Applied to the skin, it increases the cuticular action, and the skin is formed thicker. Applied to a weakened part, it increases the natural action of that part, and strengthens it: This is seen in the instance of debilitated muscles, &c. But, if the pressure be too great, then a

morbid increase of action takes place; which even goes the length of inflammation, if the pressure be considerable; and this inflammation is either strong or weak, according as the pressure has operated; for, if many vessels be obstructed, as is commonly the case, then the power of the part is injured, and the action is weak; or, the same happens if pressure be applied in any manner to a weak part, or if the constitution be weak; as, for instance, from previous disease.

PRESSURE, applied to a part, increases in particular the functions of absorption and deposition. If moderate, these functions are moderately increased, and the structure of the part continues either the same, or it augments in size, as we observe, in the effects of walking, on the skin of the feet; but, if the pressure be greater, then these functions are mor-

bidly increased, the particles are deposited imperfectly formed, and are as quickly taken up. The structure is therefore destroyed, and a vacuity formed. These effects are produced more easily upon diseased than healthy structures ; because their powers of acting, and sustaining action, are less. Friction is in this respect similar to pressure.

FROM these remarks, we may understand the mechanical utility of pressure in the cure of ulcers ; for, when in a proper degree, it causes the absorption and destruction of the callous edges, or diseased substance, and likewise makes, if moderate, the diseased granulations be taken up, and more healthy ones be formed. We may likewise perceive, that, if the degree be too great, the action will become of an inflammatory nature, and injury will be done. We are therefore

frequently under the necessity of counteracting this hurtful effect ; for, the degree of pressure which is requisite for answering the first intention in old sores, or inducing action, in consequence of bringing the granulations or particles into the natural state of being in contact with some body, or covered by it *, is often at-

* The degree of pressure necessary for producing this effect is proportioned to the susceptibility of the granulations, or organic particles, for receiving the impression of being in contact. When a part is healthy, the mere circumstance of juxtaposition is sufficient for this purpose ; and, in a healthy ulcer, the weight of the body applied, such as powdered chalk, or plaster of Paris, or at least the gentle pressure of a stocking, or easy bandage, is all that is necessary. But, when the action is too low, and the granulations are consequently imperfect, both in their structure, power of acting, and capability of receiving impressions, the contact, in order to operate, must be nearer, and more complete ; or, in other words, the pressure must be greater. In these cases, bandages not only act on the sur-

tended with such mechanical irritation, that the one effect would destroy the other, unless we kept the action within due bounds, by applying cold to the part. In healthy ulcers, the pressure necessary to produce its first set of effects, or to accelerate healing, by producing contact, is so trifling, that no counteracting effect takes place by the production of the second set of effects ; and, therefore, no cold requires to be applied : But, in old ulcers, the pressure must be greater ; and, therefore, cold water must be constantly applied to the bandage over the fore, by means of a sponge. We thus indeed lessen the effects of pressure on the absorbing system, and, therefore, the callus will be longer of being destroyed ; but we,

face, but also on the parts below, and, therefore, increase the degree of contact of the newly-formed organic particles, and thus strengthen the part.

on the other hand, prevent the action of the granulations from being rendered morbid.

THE good effects of pressure, applied in a degree proportioned to the effect which we wish to produce, and to the state of the sore, are so universal, that it is unnecessary to give any examples of its success and utility. But, at the same time, it must be observed, that in old ulcers, and even in many of a more recent date, which have been much neglected, no application whatever will produce an uninterrupted cure ; for, after some time, it ceases to produce the same effect upon the action. The part seems, by continuance, to be less acted on by the agent ; the action is less affected, and slowly returns to its former state of imperfection. It is therefore necessary, either that we from time to time increase the power of

our application, or vary our remedies, whenever the process becomes stationary: The latter is generally the most effectual way; and the remedies which we alternate with the effects of pressure, are those of what have been called the stimulating kind; but which of the individuals of this division ought to be employed, cannot always be determined, because one succeeds better in a particular instance than in another. It would, however, be of much importance, to ascertain which in general operated most effectually; because, if we employ one which does no positive good, we sustain positive harm; for the action is allowed to persevere in a retrograde process. I, therefore, paid particular attention to the operation of these applications, in the patients who were under my care in the Glasgow Infirmary.

HEAT is found to increase almost every action ; and, therefore, in indolent ulcers, it is sometimes of use, especially for a few days after we begin the management of the sore, as it paves the way for the action of other agents, by beginning a change of the action. Poultices are the vehicle by which it is most frequently applied, and answers, in general, better than other forms. Fomentations are much used by many practitioners, who employ decoctions of different kinds of vegetables ; but they have no superiority over poultices. Dry heat was used by M. Hevin, who held ignited charcoal near the sore ; and it is sometimes of use to repeat this practice betwixt each dressing.

ELECTRICITY is of little service ; because it cannot be constantly employed ;

and, therefore, its operation is only temporary.

It is worthy of observation, that although this kind of ulcer may be sometimes completely cured by the use of heat, that yet the action is not so perfect, and consequently the structure and power of the part is weaker, than when stimulating dressings are employed. Exercise, or any other cause, is therefore more apt to injure the part afterwards, and make it again break out into an ulcer.

THE red precipitate, mixed with resinous ointment, in the proportion of a drachm of the former to an ounce of the latter, is a very useful dressing; but the ung. hyd. nit. mixed with four times its weight of hog's lard, forms an ointment which is still more generally useful.

TEN grains of the cuprum ammoniatum, rubbed up with an ounce of basili-con, or simple ointment, is sometimes useful, but cannot be depended on. The same may be said of an ointment composed of an ounce of ung. simplex, and ten drops of the oil of cloves, or of safin.

CLOTHS dipped in the aqua zinci vitriolati, or the solution of cuprum vitriolatum, diluted with water, so as only to smart moderately, are likewise of service, but not so frequently as weak solutions of the nitrates of silver, zinc, copper, bismuth, and many other metallic salts, such as muriate of mercury, &c.

SOLUTION of common salt, or of nitre, of such a strength as to produce a moderate smarting, are of temporary advantage, but will not continue their effect long. Indeed all solutions of saline

substances, whether alkaline or metallic, are most useful when applied only for half an hour at a time, when the sore is dressing.

MIXTURES of Thus, elemi, turpentine, canadine balsam, &c. with wax, or oil, have no advantage over the common ung. resinofum *.

THE bile, either by itself, or diluted, or mixed with yolk of eggs, does not seem to be of much service.

LEMON juice, or the mineral acids, particularly the nitrous, diluted so as to be of equal strength with the juice, are

* An ointment composed of these resinous substances is much recommended in the *Acta Med. Berolin.* Tom. VII. p. 58.

frequently of service *. Port wine is also an useful lotion.

INFUSION of Cayenne pepper, in vinegar, added to water, in such a quantity as to smart, forms also a very useful application.

OF all these remedies, the ointments composed of the nitro-metallic salts, particularly the mercurial, are most generally useful : And the cure seems to be accelerated, by applying cloths dipped in weak solution of metallic salts, or weak acids, during the intervals of dressing.

* These acids coagulate the pus, and thus afford an artificial covering, or film, which remains in close contact with the granulations, and thus, by producing the natural circumstance of contact and covering, the effects of which have been already mentioned, as well as by creating a more vigorous action by their specific action, they frequently bring those sores into a healthy state.

Whenever these applications fail, they must be dropped : And those which fail first, and soonest, seem to be the watery, or fluid applications ; and, next to these, the simple resinous ointments.

THESE remedies generally produce their effect first at the margins. When this takes place, we must diminish the strength of the application at that part, in proportion to the activity of the action, which is marked by the redness and pointedness of the granulation, and the cicatrizing state. The circumference, and the rest of the surface, must, in this case, be dressed with different strips of linen, spread with different ointments. Soft linen, spread with simple cerate, or dry lint, which is preferable, should be applied to the cicatrix, and cicatrizing granulations, whilst a stimulating sub-

stance is applying to the rest of the surface.

WHEN the surface is obstinately diseased, or the action very torpid and imperfect, caustic has been applied ; but, although I have often used it, and even applied cloths dipped in solutions of metallic salts, so strong as to form an universal eschar, or slough, yet no benefit whatever was derived ; for we do not thus change the nature of the action, but only remove a layer of the surface, and leave that below in possession of the same mode of action with the former. Caustic is more useful, when applied to callus edges ; but even these are more effectually removed, by remedies which act more permanently, and gradually, particularly by pressure. The ancients used to extirpate these with the knife, but few will consent to its use. It is indeed more

speedy and effectual than the caustic; but, unless the action be afterwards properly supported, it will be of no permanent service.

THE hard and thickened state of the surrounding integuments, in old ulcers, is best moderated by pressure; but this must be long continued.

VARICOSE veins, were, by the ancients, considered as canals running into the fore, and furnishing the discharge; but, when we consider that these varices frequently occur without any ulceration, or discharge, the opinion must be abandoned. In such cases as occur along with ulceration, it will be more natural to consider the affection of the vein as a disease dependent originally on the ulcer, and induced by it, in the same way as the structure and functions of other

neighbouring parts are changed and impaired by the continuance of a tedious and diseased ulcerative action. This state of the vein being once induced in any part of it, and even in a slight degree, two consequences follow: First, from the power or property of the vein being impaired, the blood is not duly propelled, but circulates slowly, and cannot overcome readily the weight of the blood above; which presses more powerfully, in consequence of the valves being rendered imperfect by the distension of the vessel. The disease, therefore, gradually increases; for, every day, the power of acting properly diminishes, at the same time that the mechanical necessity for acting, or the resistance of the column of blood increases. On account of the dilatation of the vessels, and the morbid or abortive effect to propel what they are unable to do, pain is produced,

in the course of the varix, whenever the legs are kept in a dependent posture, or exercise is used. This pain is confounded with the uneasiness arising from the ulcer; and, therefore, these ulcers are said to be painful, and to be attended with pain in the course of the veins.

THE second consequence is, that, as the veins which are more immediately connected with the ulcerated part, are diseased, and do not perform their part in the circulation properly, the functions of the part must be still more injured, and the varix, which originally perhaps was produced by the ulcer, comes in its turn to act on the fore, and prevent its healing; for the vein not acting properly, and conveying the blood fully, the action at the capillaries must be injured, and the artery and vein cannot act healthily. If this be the case, the power of forming

granulations must be impeded, and these never can be deposited in the necessary degree of perfection.

Two modes of cure have been proposed, the one palliative, and the other radical. The first is effected by means of rollers, or bandages, which prevent the vein from being distended, and, therefore, enable it the better to carry on its circulatory function. In this way, we prevent, to a certain degree, the hurtful operation of the vein upon the ulcer, and are often enabled to heal it up. But, as we do not thus restore the vein to its natural powers, unless in young people, who continue the support or pressure for years, we can obtain no permanent cure of the varix; and very frequently the parts again ulcerate; because, whenever the pressure or support is withdrawn, and the patient walks about, then the func-

tion of the part becomes affected, the organic particles are not deposited in the same state of perfection, and the action which is induced by exercise causes the destruction of these granulations ; or even the very circumstance of their being formed imperfectly is sufficient to produce their destruction, and the opening of the part ; for all parts which have been formerly ulcerated are most ready to assume this action again, and the organic particles of that part are less perfect, and less able to bear action.

THE second is obtained, by obliterating the diseased vein, or interrupting its communication with the trunk above, by which we make the blood take a different course, and be transmitted by healthy veins. If we now cure the fore, we find, that the same effects are produced as if we used permanent pressure ; and, there-

fore, the functions of the part are more properly performed, and the organic particles possess greater power of acting, and sustaining action. The older surgeons proposed to effect the radical cure, by tying the vein at the two extremities of the diseased part, and cutting out the intercepted portion, or by laying it open, and digesting it, as they said. This, however, was, as they confess themselves, very seldom submitted to in ulcers of the legs; and was rather inserted to complete their treatises, than from a belief that the operation ought to be insisted on. Of late, it has been proposed by Mr. Home, to tie only the upper extremity of the diseased portion *, by which

* This operation is performed by making an incision through the skin which covers the vena saphena below the knee; a ligature is then passed under the vessel, by means

adhesion takes place at that spot, and the circulation is there stopped. The pressure of the blood above is thus taken off, and the blood from below must circulate, in a greater degree, through vessels which are better able to perform their functions; and, therefore, the actions of the capillary vessels, whether nutrition, absorption, or conversion of the blood from arterial into venous, must be more naturally performed. After the veins are tied, they gradually become smaller; for the pressure being permanently removed, the diseased veins can more fully propel their blood by lateral branches, at the same time that they receive less blood, more going by other vessels.

of a blunt needle, and the vessel is tied. In two or three days the ligature may be removed, its circle being previously divided with a pair of scissors,

IT is a curious circumstance, that although ulcers may have remained in an indolent state for many years, and have become almost habitual, that yet, the cause of the indolence being removed, they recover their powers rapidly, and with very little assistance. Thus, when a varix, which originally was produced by the ulcer, reacts on the sore, and prevents it from healing, we find, that if this cause be removed, the ulcer frequently heals quickly, owing to the sudden removal of a principal cause of indolence, although a similar ulcer, without varices, would not be cured by the same application in the same time; because then all the usual causes of indolence would still remain to be removed, or their effects counteracted; but, in this case, having suddenly removed one great cause, the action rises so much, that it can overcome the rest, although, without

this alleviation, the healing process would not be commenced, nor continued. It may be useful to attend to this circumstance in every case of indolent ulcers, whether attended by varices or not; because, if we can remove any particular cause, we do much toward producing a cure. Thus, callus edges, and diseased, or thickened integuments, &c. although originally dependent on the ulcer, yet react on it, and prevent it from healing. If, then, by pressure, or otherwise, we remove these causes, we accelerate the cure.

As an instance of the good effects of tying varices, I shall transcribe the following case from Mr. Home's Observations: "A man, sixty years of age, had, for many years, gained his livelihood by going on messages, having been rendered unfit for any more laborious employment by a large ulcer on the left leg, just a-

bove the inner ankle. The complaint was of twelve years standing: It had been sometimes much better than at others, but had never been well during the whole of that period. In the year 1792, it became so bad as to confine him entirely. It was at this time I first saw him. Upon examining the limb, the veins were extremely large, and varicose; and the trunk of the vena saphena, at the knee, appeared almost the size of the little finger. The size of this vein led me to the idea of taking it up at that part, with a view of relieving the lower branches from the pressure of the blood, which I believed to be the cause why the parts remained weak, and the ulcer could not be healed. I explained my opinions upon this subject to the patient, and told him, that, if he thought it worth while to try it, I was very ready to do it for him. The man's desire to get well was

such as to induce him to embrace the offer of any mode of treatment which afforded the smallest chance of it. The vein was taken up in the way that I have mentioned: He complained of very little pain, no improper degree of inflammation was brought on by this operation, the ligature came away in nine days, and in fourteen the wound was healed.

“ THE ulcer upon the leg was dressed with dry lint; it put on a better appearance on the second day after the operation; on the fourteenth it had diminished in size one half; and in twenty-eight days was completely healed. He was also freed from a pain in the course of the veins of that leg, to which he had been subject for many years, whenever he used any exercise.

“ HE returned to his business of car-

rying meffages, and called upon me a year after, perfectly well ; his leg having continued found.”

ISSUES have been propofed for the cure of this genus of ulcers ; but, upon the principles which have been already mentioned, it muft be evident, that they can be of little or no fervice ; and, I am fure, that I never faw the fmalleft influence exerted by them over an ulcer. They are ufeful, however, after the ulcer is healed, by keeping up a fcreting action, diminifhing the risk of apoplexy, &c. ; but then they ought never to be introduced until the fore be nearly healed, or until we have reason to fuppose that the fore will heal, and that they will be required.

THE treatment of this genus of ulcers

may be comprised in the following aphorisms :

FIRST, When the action of an ulcer becomes too low and imperfect, pressure is the best remedy for restoring it to its proper state, and for accelerating the cure.

SECOND, Whenever this ceases to produce any farther effect, or the action relapses, and begins to go backward, we must lay aside the pressure for a time, and dress the sore with some of the stimulating applications above mentioned, particularly the nitro-mercurial salts; and these, in their turn, must be laid aside, when they cease to produce a good effect, and the pressure be again had recourse to.

THIRD, When we use stimulating dress-

sings, we must attend to the effects which they produce on different parts of the fore, and dress these differently, according to their condition. We must likewise proportion the strength of application to the state of the general action. Our remedies ought to smart most when the action is most torpid, and the smarting ought to continue longest; but, when the action has begun to be more perfect and vigorous, the same application will often be too strong.

FOURTH, We must, in conjunction with this general plan, attend to particular morbid structures, which may be produced by the particular state of the ulcer, and which may react on it. The chronic thickness and hardness of the integuments, are best removed by pressure, and gentle frictions; but the restoration of the natural structure is very tedious.

Callous edges are likewise best removed by pressure. When this fails, caustic must be repeatedly applied. Varicose veins may be palliated by firm bandages, but are, in general, after they have continued long, only to be cured by an operation.

FIFTH, When chronic ulcers can be healed, it is useful to form an issue, in order to keep up the accustomed secretory action; but these issues have little effect in advancing the cure.

GENUS III.

Of the overacting Ulcer.

THIS genus comprehends two species: First, that in which the granulating, or purulent process is morbidly increased,

or the two parts of the ulcerative action, the granulating and the purulent, do not correspond, or bear the same proportion to each other that they do in a healthy ulcer: Second, that in which a state of general acute overaction takes place, both parts of the ulcerative action being equally affected, and rendered diseased.

FOR the illustration of the first species, I may remark, that there are some actions performed by particular parts of the body which are apparently simple; but there are others which are complicated, and consist evidently of different parts, which, in the aggregate, form a peculiar action, but which action may be modified according to the degree in which these different parts exist. Thus, there are various parts which, when taken together, form the inflammatory

action, heat, redness, swelling, &c. ; but these may, in certain cases, exist in different proportions. The ulcerative action is a complicated one, and consists of the secretory and organising action, or the purulent and granulating. These, in a healthy ulcer, bear a certain relation to each other, and are at all times so connected, that, when one part is injured, the other is also affected ; but the one part may be affected more than the other. In the indolent ulcer, or that in which the action is too low, both parts are most commonly (at least after some time) equally affected, and a state of universal diminution, and consequent imperfection, takes place ; but, in the beginning of this state, that is to say, when the healthy ulcer is first becoming diseased, and when the unhealthy condition has made little progress, it is not uncommon to observe an inequality in

the action, or the granulations more affected than the discharge. In this genus of ulcers, however, the inequality is more striking, and frequently more permanent.

It is worthy of remark, that though the granulating action may be increased beyond the purulent one, that yet the purulent one never exists in a state of overaction without a correspondent affection of the granulating action ; in which case, very different effects and symptoms are occasioned, and the second species of overacting ulcers is produced.

THE first species has generally been described under the name of the fungous ulcer, or ulcer with hyperfarcosis. The granulations are soft and indistinct. They are imperfectly formed, and, therefore, do not possess the pointed appearance which they exhibit in health ; nor have

they equal powers of action, nor longevity. They are formed quickly, and rise to a greater or less height above the level of the surrounding skin. The margins are generally soft, tumid, and of a dull red colour. The discharge, if there be no carious bone, is tolerably thick, and of a white colour, and not in greater quantity than would be yielded by a healthy ulcer of the same size: The quantity is even sometimes less. The pain, unless when a bone is diseased, is seldom considerable. This species admits of two varieties. In the first, the granulating process is increased, in consequence of some affection of the action, which is independent of any mechanical cause. In this case, the fungus is generally pretty firm, but commonly pale, and the discharge tolerably good. In the second variety, the granulating process is increased, in consequence of some

mechanical irritation underneath, such as a piece of carious bone ; and, in this case, the fungus is softer, and less firm ; it is of a redder and more lively or fiery colour, and is sometimes covered, in particular parts, with spots of lymph ; it bleeds upon the slightest touch. The sore is generally painful, and the discharge thin, ferrous, and of a foetid smell, whilst we can frequently perceive at least one small foramen on the surface which leads down to the bone, and through which it may be felt to be rough. Out of this is discharged a thin matter from the bone, of a brownish colour, somewhat like soup, and more or less different from the discharge from the rest of the surface. These luxuriant granulations, however, must not be confounded with those which, at a later period, come from the bone itself, after it has begun to ulcerate. These are generally of a more florid red colour, though

sometimes pale, and rise up either through chinks of the bare caries, or from such portions as are denuded by a previous exfoliation. They have, in general, a more pointed appearance than those which arise from the soft parts, so that, in many cases, the fungus resembles the surface of a strawberry, being rough. This variety may be induced quickly, the bone being injured, at the same time that the soft parts are affected; but, at other times, and perhaps more frequently, the bone becomes diseased, in consequence of the continuance of a simple ulcer immediately over it; as, for instance, on the tibia. In this case, the ulcer, which perhaps was formerly indolent, now changes its nature.

THE second species exists in various degrees, and its symptoms admit of modification from the previous state of the

ulcer. Sometimes an ulcer, although previously healthy, has its surface excited into a state of overaction, by exercise, or other causes. In this case, the sore becomes painful, and the granulations assume first a kind of light crimson colour, and then a brownish hue, from a species of mortification. They do not indeed become gangrenous, and slough, but they approach to a state nearly resembling death, and are absorbed. The edges are slightly erysipelatous, and the discharge watery. This may be called the first degree or stage of the disease; and the ulcer frequently recovers soon from this, and re-assumes its healthy condition. But if it be neglected, or the injuring causes still continue, the state of overaction is increased, and becomes more perfect *; that is to say, the action

* By this I mean more perfect in its state of overaction.

which was injured in its different parts, and rendered unconnected by the incipient or new condition, becomes more completely and connectedly performed in its different parts, in an increased degree. The overacting state, which, in the first stage, took place, perhaps only for a few hours, or at least if it continued, did not rise to any great degree, or receive an augmentation in this stage, continues with violence, and generally with exacerbation. The granulations are absorbed almost as soon as they are deposited; because, owing to the overaction of the part, they are very imperfectly organised, and possess very little life and power of supporting action*. They evidently appear to be in a state of over-

* In highly overacting ulcers, the granulations seem to possess a middle state, betwixt proper organic particles and the morbid substance, called pus.

action ; for they are fiery, and their colour, whether it be red or brownish, is bright or clear, and quite opposite to the dull hue which even the same colour may have in a different kind of sore. These bleed upon the slightest touch ; on which account, the discharge is generally bloody. The margins are red and ragged, as if they were bitten by a mouse ; and they are evidently in an ulcerating state. The surrounding skin is hot and erysipelatous, the discharge is thin and ferous, and the pain great, generally somewhat of the burning kind. This sore, from the destruction of the granulations, and the propagation of a morbid degree of action, spreads as long as this condition continues ; but the progress, as long as the ulcer belongs to this genus, or as granulations are formed, is not very rapid.

It not unfrequently happens, that, after a sore which has been indolent has begun to heal, it, from fatigue, or some less evident cause, has a state of overaction induced, in which case, different appearances are exhibited, according to the previous state of the sore. If it has begun to form a natural cicatrix, this gives way, the surface becomes livid, the discharge thin, and the pain considerable. A thin slough of the granulations is then generally formed, and comes off in portions mixed with the discharge. If this state be not checked, it frequently comes to exhibit the acute symptoms of the overacting ulcer which was last described. More frequently, however, it occurs when the sore is still indolent, and not in the healing state, and when the edges still remain callous, and the granulations foul and unhealthy. If, at this time, a disproportionate, or overaction be

induced, by exercise or otherwise, we find, that the surface becomes dark and sloughy, the granulations flat and indistinct, the discharge is increased, and the margins become tumid, and of a modena colour, whilst the surrounding integuments are of a dull red mottled colour, or erythematous; and the foot, if it take place in the leg, is frequently cold, and the pain darts down to the toe.

THIS state is not unfrequently produced in old ulcers, by a disease of the parts below*, which has been induced

* This affection of the ulcer, produced by a disease of the parts below, is induced with a frequency nearly proportioned to the aptitude of the part below for becoming diseased, by the continuance of an ulcer over them. Tendons and bones are particularly apt to be injured in this way; and, therefore, ulcers seated over tendinous parts, or bones thinly covered, are more apt to affect these, and to be reacted on themselves, than when seated over fleshy parts.

by the long continuance of the ulcer, which renders the bone carious, if it lie immediately under it (in which case, the first species of overacting ulcers is produced) ; but, at other times, by the sympathy of association, a diseased formative action (owing to the diseased formative action in the ulcer, or the imperfect granulations which are formed) is induced in the neighbouring parts, the muscles become pale, and have less of their fibrous texture, or the bone becomes rough, or pointed, like shagreen, and also becomes thickened, but without any appearance

On the same account, ulcers on the foot, or ankle joint, are worse to heal than those a little farther up the leg ; and the difference is greater than can be explained wholly, by the circumstance of distance from the heart, and possessing less power of performing action properly. Recent ulcers likewise heal easily on the feet, by proper treatment. It is old ulcers alone which are difficult to manage, and the cause is obvious.

of caries. This diseased condition of the parts reacts on the ulcer, and induces overaction.

THIS state of overacting may also be induced in old ulcers, without any malformation of the parts below, but merely in consequence of continuance; for, after an ulcer has remained long indolent, it comes to act so imperfectly, that it naturally goes beyond its power. This may be said to be a spontaneous change, or conversion of one genus into another.

WE have then two varieties of this species: First, the state of overaction induced in an ulcer which was previously healthy; and this admits of two stages, the incipient and confirmed: The first sometimes consists only of one short paroxysm: The second continues for a longer time, and generally depends upon the

neglect of the first attack. Second, the state of overaction induced in an ulcer which has previously been indolent; and this admits of two subdivisions, which arise from the condition of the ulcer at the time of its overacting, namely, whether it have been healing and cicatrizing, or the edges have been callus, and the action imperfect and morbid.

THE observations on the cure of this genus of ulcers must naturally be arranged under the different species and varieties of these ulcers.

IN the first variety of the first species, our object is to remove the supernumerary, or fungous granulations, and to replace them with others, which are formed more slowly, and in greater perfection.

PRESSURE, applied in the manner al-

ready explained, is one of the most useful remedies in this variety, and ought always to be tried first. The luxuriant granulations are quickly absorbed, and the succeeding ones are rendered more compact and healthy, and the cicatrix begins to be formed. If, however, we apply pressure in this, or indeed in any sore, to such a degree as to produce its specific effect, we must counteract its irritation by cold. If we do not, this sore is frequently converted into the second variety of the second species of this genus.

CAUSTIC, and escharotics, have been sometimes applied to these sores ; but they only remove a layer of granulations, without affecting the formation of the succeeding ones so much as some other remedies.

STIMULATING applications are more useful ; for, as they act more slowly, they produce a greater influence on the action.

THE cuprum vitriolatum, mixed with simple ointment, in the proportion of a drachm to the ounce, is frequently serviceable ; but the ung. hyd. nit. is still more useful. One drachm of this may be mixed with an ounce of hog's lard and a scruple of camphor. Red precipitate, mixed with resinous ointment, is also often of service.

THE application of powdered rhubarb is recommended by Mr. Home, and is frequently of service.

LOTIONS of port wine, solutions of white vitriol, or rose water, containing as

many drops of l'eau mercurielle* as will make it moderately pungent, may be usefully applied before the dressing.

POULTICES seem to increase the diseased state; and mild dressings do not counteract it, but allow it to go on.

THE second variety is only to be cured by removing the caries bone; but the same remedies which are used in the first variety may be employed here, as palliatives, or the means of preventing the ulcer from becoming worse. By a continuance of these applications, in cases of slight caries, a cure may, after some time, be obtained; for the thin layer of diseased bone, either comes away in fragments through an opening in the ul-

* L'eau mercurielle is a solution of mercury in nitrous acid.

cer*, or it is sometimes absorbed. This last event, the absorption of the bone, is particularly induced by pressure, applied by means of the adhesive plaster; and, therefore, where the disease is not extensive, it is always proper to have recourse to this; but if, upon trial, we find it to fail, or to convert the fore into the second species of this genus, which it sometimes does, we must omit it.

As it is only in slight cases of caries that absorption of the bone is to be expected, we may consider it as necessary,

* In the description of this variety, it was mentioned, that there frequently was a small opening in the surface, which communicated with the bone; but, even where this is not the case, the layer of dead bone, when it exfoliates, comes through the granulations; for the granulations of the sound bone below raise it up, in consequence of which, pressure is made from within outward upon the ulcer, by which absorption is produced at that part, in a greater degree than deposition; and, therefore, a vacuity is produced.

in general, as a preparatory step toward healing, that the diseased portion of the bone be separated, and come away externally. It is therefore of advantage to endeavour to accelerate this ; because, whatever does so, hastens the cure. Our attempts, with this view, are made at two different stages, and with different intentions. First, when the bone has separated, or exfoliated from the part below, by making an incision through the ulcerated surface, we remove the dead part, and allow the sore to heal. This stage may be discovered, by pushing a probe through the opening, if there be one, or through the granulations, down to the layer of bone, which we find to be elastic when we press on it. But, even although the incision be made before this stage has taken place, no harm is done, because it is of use in the first stage. Second, when the carious bone has

not yet exfoliated, but remains in contact with the rest of the bone, ulceration of the sound part not having yet taken place, it will be useful to make an incision down to the bone, and, as soon as the bleeding stops, or lessens, to apply caustic freely, in the whole course of the incision, so as to act upon the caries, or rough portion ; or we may use the trephine, or other remedies, which have been formerly mentioned. It sometimes happens, that the soft parts are, at particular portions, and often to a considerable extent, removed by absorption, and the bone, at these parts, is left bare. In this case, no incision is necessary, except occasionally through some bands of granulations which extend across the bare bone ; and, therefore, we can at once apply our remedies to the bone, or make perforation with the trephine.

THE second species requires to be treated differently, according to its varieties.

As the incipient stage of the first variety frequently consists of only one short paroxysm, it would often be unnecessary to have recourse to any peculiar treatment; but, as it is impossible, a priori, to say whether the state of evacuation is to continue, it is requisite, in every instance, to vary our treatment, and apply the proper remedies for the disease.

POULTICES are frequently useful in this kind of ulcer, when the surface is dark coloured, and the integuments are not yet affected. They have sometimes an effect of checking the morbid state, if this be not already done; but they more generally promote the absorption of the morbid granulations, after which the sur-

face becomes healthy. If, however, the action be still greater, and more permanent, then the ulcer is tending toward the confirmed, or perfect state of overaction, and poultices are not of equal service; they are even sometimes hurtful.

GENTLE pressure, accompanied with the use of cold water, is of service in the same cases in which poultices are employed; that is to say, when the action has not become perfect, but has rather begun to subside, and the granulations remain dark coloured, and in a dying state. They are absorbed, and replaced with more perfect and healthy granulations.

WHEN, however, the action still continues in the same state of overacting, or seems to be increasing, these remedies are rather hurtful; and we will derive

more benefit from using applications of a gentle stimulating nature, which restore the action to a more perfect and natural state, in the same way as they cure the inflammatio debilis. For this purpose, one of the best applications is the following :

R. Opii drachmas duas.

Camphoræ scrupulum.

Vini Albi uncias quatuor. Mace-
ra per triduum, dein cola.

THIS may be applied by means of a bit of lint to the fore. It generally produces considerable smarting for a few minutes, after which the pain abates. The application is to be repeated every hour, or every two hours, until the fore begins to look healthy, and the pain abates. The adhesive plaster ought then to be substituted in its place.

LAUDANUM may also be employed with the same intention, but it is inferior to the other.

LEMON juice is also sometimes useful, and may be employed where the opiated wine fails, or is not at hand.

WHEN the state of overaction becomes confirmed, and progressive, the sore spreads, becomes very painful, and assumes the appearances which have been already described. In this case, the application of carrot, or turnip poultices, is frequently useful. These vegetables are sometimes made into a poultice by boiling them, and, at other times, by rasping them down raw.

CAMOMILE flowers, boiled in milk, and then expressed, yield a decoction, which, when made into a poultice with

crumb of bread, frequently abates the pain. Sometimes the application of cloths, dipped in fine oil, give relief.

THESE sores are also frequently reduced to a more healthy state, by applying cloths dipped in the following mixture :

R. Ammon. Hepatizata* guttas decem.

Aq. Font. uncias octo.

This produces a moderate degree of smarting for a little time, during which the former painful sensation arising from the sore lessens, and does not return for some time. When the peculiar pain of the ulcer again manifests itself, the solution is again to be applied.

* The ammonia hepatizata is prepared by passing a stream of hepatic gas through the aqua ammoniæ.

AN ointment, consisting of two drachms of powdered opium, and one ounce of simple cerate, is also a very useful application.

SPRINKLING the fore with red precipitate, or touching the surface with caustic, frequently stops the disease.

THE kind of erythematous affection, which frequently affects the surrounding skin, is best removed by stimulating applications, which abate the pain or hot sensation, and make it less apt to ulcerate. The following is a very useful application for this purpose. The affected part is to be lightly dusted with it occasionally :

R. Hyd. Precip. Rub. unc. i.

Pulv. Opii semiunc.

Cretæ Ppt. unc. ii. Tere simul ut
fiat pulvis subtiliss.

‘WHEN, by any of these applications, the state of overaction is overcome, perspire is the best remedy for preserving our ground, and producing a cure ; for, remedies which may be useful in the diseased state; will be hurtful when this state is removed.

IN this fore, anodynes are to be freely employed internally ; for, given sparingly, they do no good *.

ALL the applications ought to be made gently, and lightly ; because any mechanical irritation increases the disease.

* No external application whatever will produce the same good effect, if used by itself, as when such a general action is induced as shall co-operate with the local remedies. In slight cases, thirty drops of laudanum may be given twice a-day ; but, when the overaction is more violent, the dose must be more frequently repeated.

THE second variety of this species is a very troublesome ulcer, and admits, as has been already observed, of two divisions : First, it not unfrequently happens, that, after an indolent ulcer has been in a healing state for some time, a state of overaction is induced, by fatigue, or other causes, particularly by the natural inability of the newly formed, and not completely perfect granulations, to sustain the action which is necessarily induced in them by their connection with other parts (upon the principle of the communication of action). In this case, the sore becomes foul, dark coloured, and painful, whilst the cicatrix ulcerates, and the new granulations die, so that, in a short time, the ulcer regains its original size, and even spreads slowly to a greater extent. Second, an old ulcer may, without having been previously in a healing state, become converted into the

overacting ulcer ; because the surface has its power so weakened, that common agents, which naturally excite action in the part, excite a disproportioned and morbid action in the ulcer ; but this action is of the low kind, and bears somewhat the same relation to the first species, (or overacting ulcerative action, in ulcers previously healthy,) that the *inflammatio debilis* does to the *inflammatio valida*. In this case, the surface is bloody, and the half-formed granulations are of a livid colour ; the callus edges are of a dusky red, or modena colour ; the integuments are generally mottled ; the inferior part of the limb is cold and painful.

IN the cure of the first division, we must enjoin rest, as in the second variety of the first species, and apply cloths, dipped in a mixture of two parts of lau-

danum and one of camphorated spirit of wine, which produces at first considerable smarting ; but the sensation is different from the former pain ; and, although uneasy, is yet more tolerable than the peculiar pain of the ulcer. This application ought to be renewed two or three times in the course of the day, until the surface becomes of a better appearance, and the pain abates.

THE application of the powder of bark to these fores is sometimes, but very seldom, of service *.

A POULTICE, formed of decoction of camomile flowers, opium, and charcoal †,

* This was probably recommended on account of the splacelated appearance which these fores sometimes have.

† Let two ounces of camomile flowers be boiled in three pounds of water down to two. When this is cold, it

is frequently of use, and should be employed when the laudanum and camphorated spirit fail. This should be applied cold.

IN the second division, the fermenting poultice * is often of service ; but it must, like all other applications, be continued no longer than the state which it was intended to remove remains. If we continue it too long, we do hurt ; for, if it be kept on when it produces continued pain, it induces a state of overaction, similar to

ought to be strained, and half a drachm of opium diffused in a pound of the decoction. Of this, a sufficient quantity is to be added to powdered charcoal, in order to form a poultice.

* The fermenting poultice is made by adding a spoonful of yeast to an oatmeal poultice, and placing it before the fire until it begins to emit air, or rise up in a bubbling way. It is then fit for applying to the sore.

that which it was intended to destroy. Whenever the surface becomes redder, and the pain less, it may be useful to employ some other application, such as laudanum, &c.

THE same observations apply to the use of the gastric juice. Cloths dipped in this sometimes make the overacting surface slough off, and leave the parts below more healthy. The same may be said of the expressed juice of sorrel.

LIME water sometimes operates in the same way.

RED precipitate, mixed with its weight of powdered opium, and half its weight of camphor, may be usefully sprinkled over the surface.

A POUND of the recent leaves of hem-

lock, boiled for half an hour in two pounds of milk, and then expressed, forms an application which sometimes abates the pain, and renders the action more healthy. The juice is to be made into a poultice with crumb of bread.

DECOCTION of the walnut tree leaves, applied by means of pledgets of linen, or made into a poultice with bran, is occasionally of service.

WHEN, by any of these applications, the morbid state of the ulcer is removed, it is to be dressed according to the genus into which it is then converted.

AFTER these remarks, the treatment of this genus of ulcers may be comprised in the following observations :

FIRST, In the first variety of the first

species, or the simple fungous ulcer, the cure is to be attempted by pressure, and gentle stimulants, which render the action more natural, and the granulations, in consequence, more perfect and compact.

SECOND, In the second variety of this species, we are to employ the same remedies, as palliatives, or as means which may promote the exfoliation of the bone. But, if the disease in the bone be more extensive and tedious, we must cut down through the ulcer, and apply caustic, or mechanical cures, such as perforation, to the caries.

THIRD, In the incipient stage of the first variety of the second species, we must avoid motion, and all other such causes as tend simply to increase action. When the disease has consisted of one

short paroxysm, which has terminated, we must promote the absorption of the diseased granulations, and the process of replacing them with others which are more perfect, which is effected by such remedies as render the action which forms them more natural. This is best done by gentle pressure, and sometimes by poultices. If, however, the paroxysm continue longer, but in a moderate degree, we must use such applications as tend more directly to change the action, and diminish the morbid condition ; such as camphorated and opiated preparations, and sometimes the vegetable acids.

FOURTH, When this state becomes confirmed and progressive, the action being violent, we must use remedies nearly similar to those which are employed in the last case, and which are useful in the cure of the inflammatio debilis, at the

same time that we enjoin rest, and keep the part as easy as possible. In some instances, the action cannot be overcome directly by any application, but is rather increased by them. In this case, we must lay these aside, and use mild and light applications; such as fine oil, fresh cream, &c.; at the same time that we avoid the general causes tending to increase action; such as motion, heat, spirits, &c.

FIFTH, When this state occurs in chronic ulcers, we must use such remedies as tend to remove the dead or dying granulations which frequently cover the surface, and such as at the same time produce a more natural action, and restore to the succeeding granulations greater powers and perfection, and a more healthy mode of acting. Stimulating applications frequently have this effect; such as the fermenting poultice, precipitate

ointment, &c.; at other times, narcotic applications; such as cicuta, &c. are useful.

SIXTH, In these ulcers, the redness and pain of the skin which surrounds the ulcer, is to be treated as the inflammation *assuefacta*, by being dusted with the powder which has been already mentioned, or by similar remedies.

SEVENTH, In all of these ulcers, where the action is violent, much benefit will be derived from inducing the general narcotic action to a considerable extent. Anodynes are therefore to be freely administered, at the same time that we employ the proper local remedies.

EIGHTH, Whenever the ulcer becomes more healthy, and the action less morbid, the strength of the application is to be

diminished ; and, when the state of over-action is destroyed, it must be treated as the indolent ulcer, because the granulations are still feeble. Pressure is most useful in this case.

GENUS IV.

Of the Inflammatory Ulcer

IT sometimes happens, that the ulcerative action becomes converted into the inflammatory ; the discharge diminishes, and sometimes ceases ; the surface is red ; and the edges and surrounding skin are elevated and inflamed. This, which has been called the phlogosis ulceris*, strictly speaking, does not be-

* “ Siccitas rubido et phlogosis ulceris facile cognoscuntur ; dolore, pruritu, calore stipantur ; ea impediunt carnis excrecentiam, adeoque indicant remedia emollientia,” &c. Sauvage Nosol. Meth. Tom. II. p. 613.

long to the division of ulcers, because the ulcerative action is destroyed ; but, as it is preceded, and very quickly followed by this action, and as the solution of continuity, and other external appearances continue, this affection may be allowed to rank as a genus amongst ulcers, in conformity to common language.

WHEN the pain and inflammation are considerable, leeches are frequently applied with utility in the vicinity of the fore ; but it is more generally useful to apply warm poultices, which restore the secretory state, and the ulcerative action.

GENUS V.

Of the Suppurating Ulcer.

THIS genus, like the last, accurately speaking, does not belong to the class of

ulcers ; but, as it is so intimately connected with it, both in its causes, and treatment, and appearances, it is of some practical utility to admit the arrangement.

WHEN an abscess is opened before the ulcerative action is induced, we have an open suppurating sore ; but this is not the sore which is meant to be described here.

THE suppurating ulcer is, when simple, and independent of any specific action, most frequently only a high degree of the overacting ulcer ; but, as its symptoms are somewhat different, and as it nearly resembles some specific sores, differing from these only in the absence of the peculiar action, resulting from the application of a poison, it may be proper to consider this as a separate genus.

WHEN the ulcerative action is very imperfectly carried on, which often arises from overaction, we find, that the organic particles are thrown out, not in the form of granulations, but in a more inorganic state, and lie upon the surface, mixed with the discharge from the other set of vessels. This has the appearance of very thick tough pus, and the sore which yields it may properly be considered to be in a suppurating state. This ulcer is distinguished by the pain which attends it, by a redness which surrounds the margin, and a hardened base, whilst the cavity of the ulcer is filled up with a thick straw-coloured substance, somewhat like lymph, which adheres firmly to the surface. This is improperly called a slough.

THIS appearance and condition may be excited in a simple ulcer, without any

apparent application of contagion ; but it is still more frequently the consequence of some morbid matter acting on the part, and producing specific ulceration, which will be afterwards considered. I may only here observe, that it has, in some of these cases, been considered as a species of gangrene, as, for instance, in the cynanche maligna ; but, whatever may take place in the advanced stages of this disease, there is at first no gangrene, but a suppurating ulcer, which throws out imperfect granulations, or rather a morbid purulent discharge (for the one runs naturally into the other), which forms what is called a flough.

THE treatment of this ulcer consists first in procuring a separation of the tenacious covering, by such remedies as shall, at the same time that they do this, make the action more healthy.

A PRETTY strong solution of the argentum nitratum, or l'eau mercurielle, diluted with equal parts of distilled water, applied by means of a brush, frequently produce the desired effect.

THE acetous infusion of Cayenne pepper, applied in the same way, is likewise useful.

POULTICES made of decoction of camomile flowers, and equal parts of charcoal and barley meal, are sometimes of service in removing the matter, and rendering the action more truly ulcerative.

OPIATES ought to be freely administered.

WHEN this state of the sore is removed, the ulcer must be treated according to the condition of the ulcerative action.

Most frequently it belongs first to the overacting genus, and must be treated accordingly, and then to the genus of indolent ulcers, in which case, pressure is to be employed as a termination to the cure.

WHEN an overacting ulcer has, without the assistance of local applications, ceased to overact, it not unfrequently suppurates; that is to say, no granulations are formed, but the two sets of vessels throw out an inorganic matter, and the surface of the sore has a lymphatic appearance.

THE best dressing for this state is dry lint, with a pledget spread with cerate laid over it.

Of the Effects of the Ulcerative Action on the Constitution.

THE condition and qualities of an ulcer, do not, in every instance, depend upon causes which are entirely local, but frequently are connected with some general state, or mode of action, of the system. General weakness must, for example, influence the performance of any action in a particular part; and, therefore, an ulcer in those who are infirm, and exhausted, cannot readily perform the necessary healthy action, or proceed quickly toward a cure; nor is it easy, in these circumstances, by any local applications, to communicate the necessary action, and the correspondent power, which shall enable the part to heal. In the same way, there are some people so irritable, that an ulcer shall very readily as-

sume the overacting state, which can only be removed by such remedies as act on the general system. Besides those which may be considered as simple conditions, there are many other actions, which are peculiar and unnatural, which influence the ulcer, or in which ulcers often appear as symptoms. These ulcers are specific, and must be afterwards considered.

As the state of the system has a considerable influence on the condition of an ulcer, so also has the state of the ulcerative action an effect on the constitution. A healthy ulcer, unless very extensive, has little effect on the system; but, unhealthy ulcers, or those which are very large, although the action may be sufficiently perfect, produce a greater or less degree of the general diseased formative action, or what is called hectic.

FROM the principles which have already been laid down, it may easily be understood how an unhealthy ulcer should induce hectic. When considering the doctrine of suppuration, the effects of this on the constitution, or the production of a general diseased formative action were attended to. It was also mentioned, when considering ulceration, that the ulcerative action had a tendency to produce similar effects ; and this it does, with a certainty proportioned, *cæteris paribus*, to the unhealthy condition of the action, or its approximation to the suppurative action ; for the less perfect that the ulcerative action is, the more nearly does it resemble the suppurative one.

HEALTHY ulcers, if very extensive, produce likewise considerable effects on the constitution. This is chiefly perhaps owing to the purulent action, which

makes a part of the ulcerative one ; for this morbid local secretory action induces a general change, in the same way as other acute changes, of either the formative action itself, or any other intimately connected with it, such as the interstitial. But, besides this cause, the granulating action, although healthy, co-operates with the diseased interstitial action, or the purulent part of the ulcerative action ; because, although the granulations, or organic particles, be healthy, yet they are formed in an unnatural situation, and with greater rapidity, and in greater numbers, in a given time, than naturally they ought to be ; and, therefore, the action of the part requires greater power for its continuance than is possessed. There is consequently, then, weakness produced, which, by association, affects the system, and co-operates with the diseased formative action, increasing the ge-

neral disease. The consequence of this state, likewise, is, that the ulcer comes, after some time, to be rendered unhealthy, owing to the deficiency of power to support the necessary action; in which case, the granulating action comes to be also diseased, and co-operates still more with the former morbid condition of the interstitial vessels, or the purulent action, which, although a part of a healthy ulcerative action, is yet itself a morbid secretion, and an unnatural action.

THE effects of the ulcerative action on the constitution, are to be alleviated by good diet, free air, and the other remedies which have been pointed out when formerly considering hectic, to which I now refer. I shall only observe, that some of these remedies are employed occasionally with little judgment, and when they are not indicated. It is, for in-

stance, a common practice with some, to prescribe the bark for the cure of every ulcer, whether the constitution be affected or not. But, from many trials, I am confident that it is of very little service, unless when a general disease, whether it be called weakness or hectic, exists.

WHEN the proper remedies for the cure of hectic, conjoined with necessary local applications, fail, the diseased part must be removed; but, before doing so, it is, in every instance, proper to form a pea issue, in order still to keep up a secretory action, the good effects of which have been already noticed.

THE restlessness, and febrile symptoms, which are sometimes produced by painful sores, are best relieved by anodynes.

*Of the Cure of the Inflammatio Debilis, and
the Treatment of Mortification.*

THE causes and nature of mortification having been already explained, I shall now consider the means of prevention, and the method of cure. The remedies necessary for procuring the resolution, or suppuration of the inflammatio valida, having been formerly enumerated, it will be unnecessary here to make any repetition, or to say more than that we are to prevent mortification by endeavouring to induce one or other of the other terminations, and that the remedies which do so are to be employed with a promptitude and assiduity proportioned to the greatness of the action compared to the powers of the part; and, therefore, that in the intestines, &c. we

must pursue our course speedily, if we expect to prevent gangrene.

MORTIFICATION, however, is still more apt to succeed the inflammatio debilis, or inflammation of weakened parts; and, therefore, the treatment of this will now more naturally come to be considered, as forming a part of the prophylaxis of mortification, than in any other place.

THE most frequent instance which we have of the inflammatio debilis, is the inflammation of parts which have been previously benumbed with cold; but it may also be produced by the action of any of the common exciting causes of inflammation, in weak and reduced habits, or by bruises in sound parts, &c.

WHEN a part has been exposed to

much cold, it may inflame, from two causes: First, the communication of action; secondly, the application of subsequent stimulants, more especially heat. Both of these tend to excite an action in the part, which is greater than its power would naturally perform; and, therefore, it becomes diseased, or inflammation is produced, and the little energy which did remain is soon destroyed. The operation of the first cause is prevented by lessening the action of the surrounding parts, by the application of moderate cold, whilst we avoid motion, and whatever may tend to act directly on the part, and co-operate with this cause. The operation of the second cause is prevented by keeping away every agent which will tend to excite action, or at least those which tend to do so suddenly. In the generality of cases, it is perhaps most proper at first to do nothing; because, what-

ever we apply, tends to excite a greater action than can be sustained; we ought, therefore, to delay any remedy until the part has begun to recover itself, and the action and corresponding power has begun naturally to increase; we may then interfere, by applying such remedies as increase the action, which are perhaps now more useful, by preserving the ground which is gained, than by increasing still farther the action. Of this kind is heat, which must, upon this principle, be applied with great caution, and must, in its degree, be nicely adjusted to the existing state of action. When a part, then, is benumbed with cold, we ought at first to apply a degree of heat, very little above that which the parts were formerly exposed to, which, in one sense, may be said to be doing nothing; for this step is intended merely to pre-

vent farther injury. When this is continued for a short time, we may suppose that the part has begun to act a little more in a natural way, which is attended, as was formerly explained *, with a correspondent increase of injury. We then increase the heat, but very slowly, and taking a long time to bring the part near its natural temperature, being regulated by the progress which the part itself is making; for the application of heat may be considered in two points of view, in this case; first, as the removal of the injuring cause; and, secondly, as a stimulus to action. If, then, the part do not recover itself, in proportion to the removal of the hurtful cause, but remain stationary, it is evident that a farther removal is at present useless, and the stimulus which is consequently given is

* See the preliminary dissertation.

highly dangerous. By these means, then, we proceed slowly toward recovery, and keep up the ground which we have gained.

If, however, the action of the part have been sunk very low, then recovery is impossible, there being little or no energy, and so little action, that it cannot increase itself toward the natural state. In this case, our endeavours must fail, and will even kill the part sooner than if we had let it alone; for the least increase of action destroys the life of the part, which may, in this case, be compared to a dying taper, which gives one brighter flash before it becomes for ever extinguished.

If, on the other hand, the action have not originally been sunk so low as to make the process toward death continue

progreſſively, but the remedies have been applied too quickly, or, from any cauſe, have failed to produce this effect, then the action becomes inflammatory. The pain becomes of a burning kind, there is a feeling of pulſation, and the part becomes redder, or livid, whereas, before, it was bluifh; from the ſtagnation of the blood, there was no feeling of pulſation, or arterial motion, and the ſenſation was that of a painful cold and weight. The inflammatio debilis is now induced, and the danger is great, but ſtill there is a poſſibility of recovery, which is exactly in proportion to the degree of previous diminution of action, and to the rapidity with which the ſubſequent inflammatory action was induced, and the degree to which it is raiſed; or, in other words, the danger is proportioned to the diſparity betwixt the action and the power.

THE remedies for this disease are such as tend to induce an action similar to the natural one, by which we remove the diseased one ; for we know of none which excite the natural action directly, otherwise they would be of universal utility, and would, in the present instance, be preferred to every other. The remedies which we employ with this intention, are bark, opium, &c. internally, and vinous, or spiritous applications externally. These, however, would be pernicious, were there no inflammation present, because they would, by exciting action, tend to induce this ; but, when the inflammatory action is once induced, then, as they excite one more nearly resembling the natural one, they are useful ; for, on the one hand, they destroy the morbid one, and, on the other, increase the power of recovery ; but, for this purpose, internal medicines, and good

diet, must be given, as a source whence the energy is to be renewed, by the renewal of the natural action. Heat is of the most pernicious tendency in this complaint; because it simply increases the exciting action, and, therefore, makes the inflammatory action still more violent. The applications, therefore, ought to be cold, as long as the morbid action continues; but, when it is abating, and recovery is going forward, they may be made a little warmer, as they will thus accelerate the healing process which is taking place; but this requires much prudence.

SPIRIT of wine is one of the best applications in this disease, and is one very generally employed. Camphor is frequently added to it, and appears to increase its efficacy. Pledgets dipped in camphorated spirit of wine, and applied

to the part, will, if frequently renewed, in many cases, remove the inflammation, and prevent gangrene ; but, in every instance, it at least relieves the pain, which uniformly returns, if, when the inflammation is violent, we omit the application, or use a weaker spirit, such as the proof spirit.

ESSENTIAL oils, particularly that of turpentine, which is easiest procured, are also useful, but are inferior to the alcohol.

LAUDANUM, in slight cases, is useful as a topical application ; but, if the inflammation be more severe, it must be mixed with rectified spirit. A very useful application may be prepared by adding two ounces of laudanum to a pound of the *spt. vin. camph.* of the pharmacopœia.

INTERNALLY, the bark must be exhibited in full doses, with such a quantity of wine as the feebleness of the pulse points out; but we must be prudent in this respect, because, if we give too much, we may increase the local disease. As long as it does not increase the pain, or quicken the pulse, it is to be considered as useful.

OPIATES are extremely necessary in the inflammatio debilis, and, in general, require to be given freely.

SOUPS, and other articles of nourishing diet, are absolutely requisite, and ought to be given in small quantities at a time, but frequently repeated.

By these means, we may frequently resolve the inflammation completely; but, at other times, when we have gained a

certain ground, the inflammation terminates in the suppurative action; or, in other words, when the parts have gained more strength, and the action has come more nearly to resemble the inflammation *valida*, which has continued for some time, a similar termination takes place. This event cannot, perhaps, in these cases, be prevented, and, although it may occasionally protract the cure, yet it diminishes the danger, making mortification less to be dreaded. The best treatment, in these cases, perhaps, is to continue our usual applications, avoiding warm poultices until the action be fully formed; then moderate heat may accelerate the progress of the abscess toward the surface. The same internal medicines must be exhibited, the anodynes, however, being gradually diminished as the pain (which marks the necessity for their use) abates.

It too frequently, however, happens, that either our remedies fail, or the proper ones are not assiduously and judiciously employed, in which case mortification takes place. This requires the same treatment, in whatever way it is induced, only its progress is, from certain causes, more rapid * in one case than in another, and, therefore, requires the more free use of the appropriate remedies ; but the general principle is, in every case, the same, and, therefore, I shall here consider the disease indiscriminately, whether it succeeds the *inflammatio valida*, or *debilis* ; because, in both instances, the case is exactly the same, only, in the first, the weakness which induces mortification, is produced by the inflamma-

* It is more rapid in the *inflammatio debilis* than in the *inflammatio valida*, and in very delicate parts than in parts which are less so.

tion alone, whereas, in the second, it existed to a great degree before the inflammation was excited.

MORTIFICATION is to be prevented from succeeding the inflammatio valida, by timely bleeding, and the use of the agentes dissimiles, by which we procure resolution, or at least make the induction of the purulent action more easy. In the inflammatio debilis, it is to be prevented by remedies of an opposite nature.

WHEN, however, these remedies fail, and mortification does take place, our great object must be to prevent it from extending far, and from injuring the system. These intentions are answered by the same remedies which cure the inflammatio debilis; because the local treatment of mortification is merely that of the inflammatio debilis; for it is only

the parts which are still alive, or inflamed, which can be acted on by our remedies.

THE remedies are either general or topical, and may be considered under these divisions; but both must be used at the same time.

MANY of the older writers, proceeding upon the humoural theories, began their treatment of gangrene by bleeding and purging, after which they prescribed theriaca, and other stimulating applications. Some modern authors still adhere, in part, to this practice, and consider the loss of blood to be advantageous in cases of incipient gangrene. Mr. Bell, who is one of the latest writers on this subject, informs us, that, when the “ general symptoms of inflammation, particularly a quick, full, or hard pulse,

“ still continue violent, and especially
 “ when the patient is young and ple-
 “ thoric, it then becomes absolutely ne-
 “ cessary, even although mortification
 “ may have commenced, to empty the ves-
 “ sels a little by one general blood-letting,”
 which, “ in such cases, may in reality be
 “ considered as an antiseptic ; and it does
 “ often indeed, in this particular situa-
 “ tion of mortification, prove more power-
 “ fully so, than all the different arti-
 “ cles in general enumerated as such.”

If, however, we consider the nature of
 mortification, and the circumstances un-
 der which it is most likely to occur, we
 must look upon this practice as dangerous,
 and must be permitted to doubt whether
 the full hard pulse is to be met with af-
 ter the commencement of inflammation,
 or whether the symptoms of the inflam-
 matio valida, (in which alone bleeding is
 admissible) still continue violent, after one

portion of the inflamed part is evidently gangrenous. Is it reasonable to suppose that one portion of the inflamed part shall be already dead, or dying, and that yet the rest shall not have begun to suffer? or that the action shall not have become converted into the *inflammatio debilis*, (if it were not originally this)? This surely is not the time for bleeding, purging, and debilitating remedies; but the part must be considered as possessing the low inflammatory action, and the patient as requiring suitable remedies. It may indeed be said by some, in favour of bleeding, that the bark, in some instances, does not check the progress of the disease; but it surely does not thence follow, that it does positive injury, and that remedies of an opposite nature are useful.

THE Peruvian bark is, in many cases,

one of the most useful internal remedies. It was originally introduced into medicine, about one hundred and fifty years ago, as a cure for intermittent fever; and its utility in gangrene is said to have been discovered by its curing this disease in a person who had it combined with ague, and who was taking the bark on account of the latter complaint. For many years after it was known in Europe, great prejudices prevailed amongst physicians against its use, partly on account of its having been improperly administered, but still more because it was so unfortunate as to cure diseases without necessarily either sweating or purging the patient, a fact which could be only ill explained, or rather scarcely allowed to be possible, by the prevailing theories of physic. Accordingly, although the cases in which it had been successful were by no means a se-

cret, and although fevers, had the courage to employ it, in spite of all speculative arguments, yet neither Dr. Boerrhave, nor his commentator, Van Swieten, thought it expedient either to recommend or prescribe it. Renewing the motion of the stagnating blood by venesection, and the exhibition of trifling remedies, which could scarcely be called cordial, although sometimes dignified with that epithet, together with the external application of ardent spirits, or oil of turpentine, constituted the current practice in gangrene. These prejudices against the bark, which originated in ignorance, and were supported by attention to a foolish theory, continued long; but the want of a better remedy began at last to make them gradually give way, and the success of empirics who used the bark soon completed their downfall.

THE bark induces an action nearly similar to the natural one, which is greatly injured, and, therefore, it gives a check to the progress of the disease ; but, if its operation be not assisted by nourishment, &c. its good effects soon subside, because the materials whence new energy can be drawn are withheld, and, therefore, the system cannot profit so much by the establishment of the new action, and by the restoration of the power of converting the vital principle of foreign matter into nervous energy. The bark, then, is of service in two points of view : First, it changes directly the action of the system, it induces, in a considerable degree, an action somewhat similar to the natural action, and, therefore, counteracts the general action of descent which was taking place. Secondly, by inducing this action, it, to a certain degree, produces the same effects for a time which would have

been produced by the natural action itself, or increases the power of renewing vitality ; for, in the preliminary dissertation, it was mentioned, that the production of energy was exactly proportioned to the perfection and healthiness of the existing action. The good effects of bark, then, cannot be obtained without nourishment and free air.

It uniformly happens, however, that, in many instances, where the action of the bark would be most beneficial, it is impossible to induce it, owing to several causes, but particularly to its effect on the stomach ; for, in many instances, it produces sickness, or nausea, in which case it can do no good, and ought to be abandoned. Momentary sickness, after taking a dose of bark, is indeed a very general effect, and does not materially injure its operation ; but, whenever it is

either frequently vomited, or produces a sickness of considerable duration, it must either be given in smaller quantities, or in a different form, or at longer intervals; or if all of these fail, it must be laid aside completely, because it not only cannot produce its specific effect, but will even injure the remaining powers by its effect upon the stomach.

THE best form in which bark can be prescribed is that of powder, which is more effectual than any tincture, or the extracts. This ought to be exhibited in as great quantity as the stomach will bear, which cannot be reduced to any certain scale. In general, an adult ought, if possible, to take half a drachm, or two scruples, every forty minutes, in the most palatable vehicle; for much depends upon the taste, owing to the sympathy betwixt the mouth and the stomach; and, for

this reason, the same vehicle ought seldom to be used more than twice in immediate succession; because, by changing the vehicle, we not only change the taste, which has a tendency to prevent loathing, but also modify the immediate action on the stomach, changing, to a certain degree, the former impression, which was perhaps beginning to produce sickness. Lemon juice and water, the different kinds of wines, punch, pimento, cinnamon, and peppermint waters, milk, rose water, beer, &c. afford us a variation which may be usefully employed.

THE tincture and watery infusion of the bark, either separately or mixed together, are frequently employed, when the powder is vomited; but, as they must be given in very considerable quantities, in order to produce any good effect, they are very apt to produce sick-

ness, and are likewise so inferior in power to the powder, that they are very little to be trusted.

THE extract with resin, is a better form than the tincture, or infusion; and, where the powder is rejected, may be made into pills.

WHEN the stomach rejects every form and preparation, it has been proposed to give the bark in clysters, and this ought certainly to be done rather than lose the effects of the remedy; but, given in this way, its effects are more uncertain. From two drachms to half an ounce of the powder of bark, may be diffused in three ounces of soup, or mucilage, with fifteen or twenty drops of laudanum, and given as an enema. This must be repeated at least every hour and a half, or two hours,

until the stomach can retain the medicine.

THE wine is very usefully conjoined with the bark, and is even of considerable use by itself, when the bark is rejected. Its operation is more speedy than that of the bark, but it is perhaps more fugacious. The quantity which is necessary to be given depends upon the effect of the local disease upon the system, and on the inability to bear other remedies. A table spoonful may be given in general every quarter of an hour, unless it increase the pain, and frequency of pulse, and produce restlessness, and heat of the skin. In these circumstances, we may be certain that we have increased the quantity beyond the necessity *.

* The necessity for this, and other remedies, is in general proportioned to the continuance of the disease, and

OPIUM is likewise an useful remedy in this disease, and ought never to be omitted; because it not only diminishes the irritability, and, consequently, the pain, but likewise, like the wine and the bark, counteracts, by the induction of its peculiar action, the progress of the inflammation debilis, and, consequently, tends to check the mortification. This medicine is most usefully exhibited in full doses, which not only procure ease, but also frequently make the stomach more readily bear other remedies. One grain of the extract, or twenty-five drops of the tincture, may be given at once, and the dose repeated whenever the action of the former subsides. After some time, each dose must be increased one half,

the progress which it has made. In this, as in every other disease, we must be attentive to the effects of our remedies, and consider these in forming our opinion.

and presently doubled, in order to produce the same effect as it did at first.

THESE remedies may give a temporary check to the disease; but, unless nourishment be conjoined, in every possible form, they will not of themselves be able to effect a cure, if the disease be tedious. Soups, jellies, milk, sago, &c. must be assiduouſly given in ſmall quantities, and even thrown up as clyſters, if the ſtomach cannot bear them.

VEGETABLE acids, fixed air, wort, &c. have been recommended in this diſeaſe, probably upon the ſuppoſition of the exiſtence of a putreſcent matter, or from their utility in ſcurvy. Wort, however, and fixed air, do not appear to be of very great benefit in this diſeaſe, at leaſt they are by no means to be put in competition with other remedies of more ap-

proved efficacy, or allowed to interfere with their exhibition. The acid of lemons seems to be more generally useful than the carbonic acid; and, perhaps, the nitrous acid would be equally useful with the citric acid. These acids do not operate by counteracting putrefaction, but by counteracting the action of descent, inducing a more healthy action, and tending to excite ulceration, which is the mean employed for separating the dead part, and producing restoration. For this purpose, however, the acids must be given freely, otherwise no good is done.

THE local treatment is to be conducted on the same principle as in the cure of the *inflammatio debilis*. Pledgets, dipped in the oil of turpentine, tincture of myrrh, or rather in camphorated spirit of wine, which is one of the best ap-

plications which can be used, ought to be made use of.

THESE remedies can do little service when applied to the dead portion; but, as the whole part does not die at once, there are always some portions which are still in the inflamed state, and on which they act. They likewise prevent the progress of the disease, by operating on the skin which is contiguous to the gangrene. Every mortification, in general, attacks the skin first; or, in other words, the *inflammatio debilis* spreads faster along the skin than along the deeper parts; but, when once the skin is inflamed, and mortifies, the disease extends to a greater or less depth below the surface. Whatever, then, operates on the surface, and prevents the progress of the inflammation, or cures the part which is already inflamed, will tend to

check the extension of the disease, especially if the proper internal remedies be made use of with a view to prevent the extension of the action of descent.

FORMERLY, in order to allow these remedies to come in contact with the living parts, it was customary to make incisions through the dead portion, and not unfrequently through part of the living substance. But, as these cannot prevent the extension of the disease over a greater surface, and, as the irritation which is given, and the exposure of parts which have not yet assumed the ulcerative action, tend to increase the inflammation debilis, the practice must be considered as improper *. It is now indeed

* The hot, and almost boiling oils, which were poured into these incisions, contributed not a little to increase the disease.

almost universally laid aside, owing, in a great measure, to the observations of the ingenious Mr. Pott.

ANTISEPTICS, such as decoction of camomile flowers, &c. have been recommended as external applications; but, whatever effects they may have on the matter which is already dead, it is evident that they can be of no service in preserving the living parts from suffering death. All that can be expected from them is to check the putrefaction of the dead substance, which they have very little power to do; and, therefore, they can never come into competition with more valuable remedies, such as the camphorated spirit of wine, &c.

WHEN, by the use of the remedies already mentioned, the progress of the gangrene is stopped, the ulcerative action is

induced in the part immediately adjoining to the dead portion, and a red line of separation appears. By means of this ulcerative action, which takes place in every point where the mortification stops, the dead part is separated from the living, and comes away as soon as the bonds of dead muscular fibres, tendons, &c. which unite them, are destroyed by putrefaction. When this separation takes place, or when it is advanced so far as to permit us to accelerate it by dividing the loose tendons, &c. the exposed part must be dressed as an ulcer, or wrapped up in a poultice of the same temperature with the human body.

IF, however, the disease have penetrated deep, and destroyed the limb so much as to render it impossible to cure it, or useless, if it were possible, then amputation must be performed; but this,

whatever desire the patient may express, must not be practised until the mortification be fully stopped, and the ulcerative action induced ; because, if performed sooner, the mortification seizes the stump, and the patient is quickly killed. The system is likewise in such a state as to be unable to sustain the action which is necessarily produced by the operation. It is even improper to cut too near the diseased portion ; because the parts here, although the mortification be stopped, are so weakened, that they are less apt to unite. The vessels often break out soon after they are tied, and a new mortification is by no means an unlikely occurrence. Even when the amputation is performed pretty far up the limb, the corners of the stump frequently mortify, or become livid ; but a few doses of bark and wine stop the progress of the disease.

ALTHOUGH it is a general rule that amputation is necessary whenever the member is so destroyed as to become useless, and although this must not be performed until the ulcerative action be induced, yet it must not invariably be performed whenever this action takes place, because sometimes at this period the patient is unable to sustain the general action which the operation would produce. We must, therefore, if the patient be much reduced by the extent, or long continuance of the disease, rather delay until, by good diet, wine, &c. we have procured an increase of strength; but, if we find that either the patient loses ground, or his weakness remains stationary under this treatment, we must then amputate; because, it is probable, that the continuance of the dead portion in contact with the living is tending to

induce still the general action of descent *.

* As an illustration of this rule, I may mention the following case : A man, during a voyage to a cold climate, had both his feet frost-bit, in consequence of which mortification ensued. In this state he continued for two or three weeks, during which he received very little medical aid. When I saw him, both his feet were mortified, from the toes to about three inches above the ankle joints, his pulse was feeble, very frequent, and intermittent, the strength was greatly impaired, and the countenance sunk and ghastly. The ulcerative action had been induced for some time, but the want of wine and proper diet had prevented the system from gaining by the cessation of the local disease. He began the use of the bark, opium, wine, and soups, which he took very liberally, in consequence of which his pulse became slower, and his strength increased. In two days, one of the ankle joints was removed by clipping through the tendons, and, in a few days more, the other came away. Amputation was now performed below the knee of the right leg, the constitution, instead of gaining, rather beginning to lose ground. The subsequent affection of the system was by no means great, and, in about a week, he was much stronger; but, as the bones of the ankle joint of the other leg were carious, he again

WHEN we do not deem it adviseable to amputate very soon after the induction of the ulcerative action, it is sometimes useful to cut off part of the black mortified portion, or perhaps to remove a joint, by cutting through the remaining ligaments. In this way, we lessen the foetor, and make the patient more comfortable.

AFTER making these observations on mortification, I shall conclude with the following case :

A YOUNG woman, who lived at a considerable distance from Glasgow, was, in May 1797, seized with erysipelas of the

began to sink. Amputation was therefore performed on the left side, in about three weeks after the first. During the cure, the wine, opium, and nourishing diet, were freely prescribed.

right foot and leg, which, by her account, had been extremely violent, and very much neglected. On the tenth day of the disease she was brought to town, and admitted into the hospital. The foot was quite cold, the leg livid, and extremely painful. Pledgets dipped in camphorated spirit of wine were applied to the parts, and bark, wine, and opium, were prescribed, together with oranges, &c. and gradually increased in quantity, until at last she came to drink, besides soup, a couple of bottles of wine daily, at the same time that she took eight grains of opium, and a very considerable quantity of bark, in the twenty-four hours. By these means, the pulse was soon brought down from one hundred and forty to one hundred and eighteen strokes in the minute; but it was not until twenty days after her admis-

sion that the ulcerative action was evidently induced. The quantity of the medicine was now gradually diminished; and, in a few days more, the separation being complete, the limb was amputated above the knee. During the operation, I paid particular attention to the saving of blood; and the circulation being destroyed in the parts below the knee, there was scarcely any lost. At this time, she was still taking a bottle of wine, with a considerable quantity of bark and opium, daily. The wine was omitted after the operation; but she had a drachm of laudanum, and continued to take the bark. In the evening the same quantity of laudanum was repeated. Next day she was quite easy, and had slept well; the pulse beat only one hundred in the minute. On the third day the stump was dressed, when it was found

(as was to be expected *), that only a very imperfect adhesion had taken place : One of the corners was also livid. The bark was therefore freely continued, and six ounces of wine added daily ; but the pulse having, on the fifth day, risen to one hundred and ten, and the spot becoming of a darker colour, she was al-

* It is very seldom that a stump unites at first, if amputation be performed on account of mortification ; at least if the operation be not delayed until the health and strength be fully re-established : But this can very seldom be the case ; for, in most cases, the state of the bones, and the disease of the part itself, prevents recovery from taking place beyond a certain degree, and also prevents us from delaying beyond a limited time. The system, therefore, is not allowed to recover fully from the tendency to the action of descent, and union does not take place. In the case which was formerly mentioned, the first stump did not adhere fully, but the second succeeded better, because then the system suffered more from the state of the diseased bones, &c. than from the previous mortification, and, therefore, it had not the same inability to undergo the healing action.

lowed a pound of wine, which made the pulse fall, and soon produced a separation of a small slough. In a short time she went to the country cured. During the whole period of the cure, the opium and wine which she took produced neither stupor, nor the slightest appearance of intoxication. I at one time, when the pain had for a couple of days been moderate, was willing to ascertain the effects of a milder preparation than the camphorated spirit, and substituted proof spirit in its place ; but, in an hour, it was obliged to be renewed, the pain having greatly increased.

Of the Treatment of the Inflammatio Affe-
facta.

AFTER the inflammatio valida has continued for a considerable time, if neither

suppuration, nor any other termination be induced, it is very apt to be converted into the state which has been called passive inflammation; or which, on account of its most frequent cause, I have called the *inflammatio assuefacta*. This action is, in several respects, different from the acute inflammation, and resembles it only in its general appearance. It may therefore, in one respect, be considered as a termination of inflammation, being, strictly speaking, a new action, or spurious inflammation.

THIS action succeeds the acute inflammation, sooner or later, in different places; and, when once induced, each succeeding inflammation of the same part is apt very quickly to terminate in the same condition; or, if the renewal of the inflammation be very frequent,

this is at last induced without any previous acute inflammation.

A STATE somewhat fimilar to this, if not exactly the fame, precedes acute inflammation, as well as follows it; for, during the period which intervenes betwixt the first formation of the action and its perfection, the part remains in this ftate. We can fometimes obferve the augmentation and diminution of the rednefs and pain during the fyftole and diaftole of the arteries; and, by the ufe of the fame remedies which cure the inflammatio affuefacta, we can fometimes prevent the farther progrefs of the difeafe.

Thus, pepper boiled in milk, is frequently ufed by the country people as a cure for cynanche, during its incipient ftage.

BLEEDING, saturnine applications, and the other remedies which are useful in the inflammatio valida et acuta, are hurtful here, and increase the disease.

THE agentes similes, on the contrary, are useful, and may be used internally, or topically.

INTERNALLY, the bark, wine, and opium, with good diet, ought always to be employed, if the part affected be very delicate, and sympathise greatly with the constitution, or if the extent of the disease be great.

LOCALLY, stimulating applications are the proper remedies; and the strength and nature of these must depend upon the natural or acquired delicacy of the part.

WHEN the skin, or cellular substance, is affected with the inflammatio assuetata, spirit of wine by itself, or with the addition of a little camphor, is a very useful application.

WHEN the skin is not directly affected, but only the parts immediately below it, as, for instance, the muscles in chronic rheumatism, or the articulating surfaces of joints, we may sometimes, by applying cloths dipped in laudanum, or strong diffusion of opium, propagate, from the surface to a certain distance, the narcotic action, and alleviate the disease; but, most frequently, we are obliged to trust entirely to the effect of the sympathy of equilibrium, diminishing the action of the internal parts, without any considerable change of nature, by increasing that of the surface. Blisters and rubefacients, such as volatile lina-

mentol. terebrinth. cum camphora, &c.
are the remedies for this purpose.

THE inflammatio affuefacta, when it affects delicate parts, covered only with a thin skin, such as the throat, forming one of the most frequent species of cyananche, is cured by gargling with port wine, infusion of capficum, and similar remedies.

WHEN it affects the eyes, the use of stimulating and opiated preparations have been long in use. The following is one of the best :

R. Vini Albi uncias duas.

Opii drachmam.

Pulv. Gall. scrupulum. Macera
per dies tres dein cola.

A DROP or two of this may be let fall into the eye three times a day.

ELECTRICITY is recommended in the cure of this kind of inflammation ; but this, as well as heat, are doubtful remedies ; for both seem to increase actions without changing them, except in so far as the change depends upon an increased degree. Cold, on the other hand, lessens the power of recovery, if carried to any great degree ; but, when slight, it assists the operation of other remedies, by lessening the performance of the existing action, which is morbid. All applications, therefore, ought in general to be a little below the temperature of the part.

WHENEVER an inflammation does not manifest a tendency to any other termination, but continues stationary, or perhaps becomes worse, under the use of the remedies which we employ for the cure of the inflammatio valida, we may consider that this action (or the inflam-

natio *affluēfacta*) has taken place, and that the nature of our applications must be changed. Bark and wine, with anodynes, may be given internally, whilst, if the situation of the part permit, suitable applications must be made to it. By continuing this treatment, we frequently resolve the *inflammatio affluēfacta*; but, occasionally, it becomes again converted into the true acute inflammation, in which case the continuance of the same remedies will do hurt. The appropriate local remedies, such as cold, saturnine preparations, &c. must be had recourse to, if the part be external, whilst, if the pulse become hard, and more frequent, or fuller, general remedies, such as bleeding in small quantity, may be useful; but both local and general remedies must be used with moderation, and pushed only a certain length, otherwise we defeat our intention, and again speedily in-

duce the inflammatio assuefacta, by interfering with the powers of recovery. If this happen, we must again have recourse to the proper remedies.

DISSERTATION III.

*On the Phagedenic, and some other Species
of Specific Inflammation.*

WHEN any peculiar modification of the inflammatory action takes place, specific inflammation is said to be produced; that is to say, the action possesses some peculiar or specific qualities, independent of the simple condition of inflammation; and these are generally productive of evident and visible effects, which are characteristic of their presence; but, until these effects, which are chiefly observable in the appearance of the consequent ulceration, appear, it is frequently impossible, from the symptoms of the inflam-

mation alone, to say that it is specific ; because the evident effects, or symptoms of the inflammatory action, such as heat, pain, redness, &c. admit of few specific alterations, varying only in degree, and this variation taking place often without any specific affection of the action *.

THE effects of the ulcerative action admit of greater variations than those of the inflammatory, and, therefore, more readily show the presence of specific action. The healthy ulcerative action exhibits certain appearances which have been already described, and which are easily known. The simple deviations which have been treated of, in consider-

* In most specific inflammations, if not in every one, the redness is never of the bright scarlet colour, but always more or less purple, or dusky ; but this may take place without any specific action. The sensation is also sometimes different.

ing the different genera of ulcers, are also discoverable by the effects, or peculiar symptoms. The specific deviations dependent upon the presence of previous specific inflammation, or the application of a morbid agent, after simple ulceration has been induced, may also, in many cases, be detected and ascertained, by the variations which take place in the aspect of the sore, the appearance of the granulations, discharge, &c.; but these variations and appearances consist so much in peculiar hues and qualities of the granulations, which we have no words to convey an idea of, that it is impossible to give an accurate description of a specific sore, but must see it in order to obtain an idea of it. We may indeed say, that a sore is ragged, has a fiery look, is surrounded with an erysipelatous margin, and discharges a thin foetid matter, but still we shall not convey the

idea of the specific appearance of the ulcer.

It is this specific appearance alone which characterises a specific ulcer ; and this, in each peculiar ulcer, is different ; and a knowledge of it can only be obtained by an attentive examination of many sores. On this account, it is extremely difficult, in many instances, to distinguish a specific ulcer, because the discrimination depends altogether upon the recollection of the practitioner, and the improvement which he has made of his former observations. It is indeed, it may be thought, an easy matter to distinguish a simple ulcer by negative characters, or the want of the peculiar aspect ; but, as this aspect is very arbitrary, and as the appearance of simple ulcers is, as has been already described, very various, it is difficult to say, without

much judgment, whether the sore be simple or specific ; for the appearance of the one and of the other run imperceptibly into each other. Even if it be ascertained to be specific, it is difficult often to distinguish betwixt particular specific diseases, in so much, that many are forced to take mercury for the cure of syphilis, who never had that disease.

BESIDES the appearance of the sores, specific action likewise produces a perceptible effect upon the scab which covers them, or the cicatrix which is formed. Thus, scrophula is marked by a particular appearance of the cicatrix, or of the scab. The venereal ulcer has likewise a particular scab, and many cutaneous ulcers are best distinguished by the scab. Other actions produce no considerable ulceration, but only successive desquamation of the cuticle.

WE may also sometimes discover specific action by the sensation of which the action is productive. Thus, for instance, cancer produces a burning kind of pain, which never attends simple ulceration.

SPECIFIC ulceration is also always surrounded with more or less simple inflammation, or erysipelas, of the surrounding skin. In some cases the margin is hard, in others ragged, &c.

IT were much to be wished, that some more certain, and less arbitrary criteria, than those which we possess of the presence of specific action could be discovered; but, as yet, we know of no other which can be applied universally. Some kinds, indeed, are so well marked, and so peculiarly distinguished from simple sores, that they can be tolerably well described, and easily discovered to be spe-

cific ; but, there are others which it is more difficult to ascertain, owing to the difficulty of fixing the character of each individual action.

THE number of specific inflammations is very great, and the causes which produce them are often obscure. In the preliminary dissertation it was mentioned, that, whenever any action existed strongly in any one part, it tended to induce an inflammatory state. There are, therefore, no general, or febrile diseases, which may not be attended with peculiar inflammations. That typhus fever is attended with local inflammatory action is pretty certain ; but the presence of specific inflammation is still more evidently seen in the different exanthematous diseases. The diseases called cutaneous, afford us also numerous instances of specific inflammation.

FROM the difficulty of discriminating betwixt diseases, which, although essentially different from each other, yet possess a very great similitude, we find, that the number of specific inflammations is confined much within the true limits; for we find many confounded under the name of herpetic, &c. which are radically different from each other.

PHAGEDENA has been used by medical writers in a very extensive sense, and has been made to comprehend diseases, which, strictly speaking, cannot be considered phagedenic.

THE phagedena is a suppurating sore, dependent upon the application of a peculiar contagion. No granulations are formed, but both sets of vessels yield a thin fluid. The surface of the sore has a jagged appearance, dependent upon the

irregularity of the absorption, and not upon the deposition of organic particles, or granulations. The colour of the surface is dark, but clear, or fiery. The surrounding integuments are erysipelatous. The discharge is thin and serous, and the pain considerable. This is divisible into two varieties: First, the true phagedenic, which does not go deeper than the skin, but spreads rapidly along the surface. This kind frequently stops in its progress suddenly, and skins over as fast as it spread. Second, the noma, or penetrating phagedena, which extends deeply, penetrating sometimes perpendicularly down through the cellular substance to the muscular fascia; at other times, proceeding more irregularly, penetrating deeper at one part than another, and having its margins ending less abruptly in the neighbouring skin. This never cicatrizes rapidly; but, sometimes,

when the sore assumes a healing appearance, it suddenly becomes again diseased, and a considerable portion sloughs off. The alternation of proceeding a certain length in the cure, and relapsing, is frequently repeated, and often renders the disease very tedious.

THE best application for the common phagedena is an ointment consisting of an ounce of ung. resinof. and a drachm of red precipitate.

THE application of caustic to the surface also frequently stops the progress of the disease.

THE hepatized ammonia, much diluted, is also very useful as a lotion.

THE penetrating phagedena is more difficult to cure; for, even after the dis-

diseased action is removed, the ulcer remains in an irritable, or overacting state. The application which I have found most useful is powdered opium, mixed with simple ointment, in the proportion of two drachms of the former to an ounce of the latter. After the phagedenic action ceases, the sore must be treated according to the genus of simple ulcer to which it belongs.

WHEN the sores seem to pursue their ravages obstinately, the most effectual mean of stopping their progress (until we discover a specific remedy, or one which can change the nature of the action), is to apply the caustic to every part, and so freely, as to produce a pretty thick slough. Whenever this appears to separate, precipitate must be applied, in order, if possible, to prevent the recurrence of the diseased action.

WHEN any considerable vessel is eroded, by the continuance of this disease, it must be tied beyond the diseased part; but we must be careful that no matter from the fore gets upon the wound, otherwise it will become diseased also. I have a preparation, in which a part of the femoral artery was opened at the groin by this kind of fore, which succeeded a venereal bubo. No operation, I understand, was attempted, but compression alone used. The man died in a short time. Whether tying the iliac artery, by cutting through Poupart's ligament, would have saved him, is difficult to say.

THE true phagedena seems always to confine its action to a particular spot* ;

* The neighbouring glands sometimes swell and suppurate, but they heal kindly, and the disease proceeds no farther.

but many of these diseases, which have been described under the same name, appear to be capable of inducing a general action, similar to the venereal disease, affecting different parts of the body in succession. A case of this kind is related by Mr. Adams, in his Observations on Morbid Poisons : A gentleman who had a small pustule on the prepuce, squeezed it so as to make it burst, and soon afterwards had connection with a woman whom he had long known. The sore remaining without healing, he applied a solution of caustic, and had recourse to mercurial frictions. But, notwithstanding these, the ulcer spread, and soon reached the scrotum. The mercury was now laid aside, and bark, with a good diet, were substituted, after which the ulcer put on a healing appearance ; but, before cicatrization took place, a feverish fit supervened, with violent pain in the part.

In the course of a short time, however, the unfavourable symptoms disappeared, and a healthy condition was again apparently induced. These paroxysms of fever, and subsequent amendment, alternated with each other for a considerable time, and each relapse was preceded by a livid appearance round the sore. These appearances at last went off, and the sore assumed more the aspect of the true phagedena. The cicatrizing process now began at the upper part, and proceeded rapidly until almost the whole sore was covered. But, nearly about this time, copper coloured spots appeared on the hands, and the inside of the right thigh; and, in a day or two afterwards, an ulcer appeared in the throat, with "bumps" on the head. Shortly afterwards a node appeared on the tibia, and the patient became bandy. The blotches speedily began to ulcerate, and another appeared

on the sternum. Mercury was now given freely, and at first with apparent success, for the ulcers looked better, and no new affection appeared; but, whenever the mercurial action was beginning to be fully induced, the granulating appearance of the surface was destroyed, and it became of a dusky colour, discharging "bloody sanies." The bones remained stationary. The medicine was now discontinued, and the patient went to the country; but, on his return, in about a fortnight, "his throat was again ulcerated*." Such of the old external ulcers as had not healed, threw up a kind of fungus granulations." The sore on the penis, which never had been completely well, had spread to the size of a shilling, but had no phagedenic, or

* From this, it would appear, that his throat had been at one time healed,

specific appearance. Mercury was afterwards tried, and some bones exfoliated from the nose. The ulcer healed; but, as soon as he recovered from the effects of the mercury, new blotches and ulcerations, with a new enlargement of the tibia, took place. "He is now under his fifth mercurial course."

IN this case, mercury evidently was prejudicial, except toward the end. It does not appear that the caustic had been freely applied to the original local disease, which might have destroyed it. These affections, which were by some considered as venereal, evidently differed from that disease, in the rapidity of its progress, in the appearance of the primary sore, and in the history of the whole of the symptoms. We are as yet in the dark with regard to a specific remedy for these, and similar affections,

THERE are several other ulcers, which appear upon the penis after coition, which probably depend upon the application of a peculiar contagion. These * are sometimes superficial and phagedenic; they spread fast, and heal rapidly, frequently in the course of a night after precipitate has been applied. At other times they are deeper, and more like a little cup; the surface is smooth and glossy, without any appearance of granulations; the discharge is thin, and the base and margin quite soft. The best remedy is the caustic, with the subsequent application, precipitate, or ung. hyd. nit. dilut. When buboes form, I have always found them heal without

* Many of these have been confounded with the venereal disease, and treated accordingly.

It were much to be desired that they should be accurately described, and one kind distinguished from another, for there are probably many different species.

the use of mercury. If, however, the bubo be the first symptom which appears, as is sometimes the case; (for the morbid agent is occasionally absorbed before it excites action in the part to which it is applied), then it is generally much more difficult to heal than when it is preceded by a local action, and induced by the absorption of matter generated there.

If these local, or primary symptoms, be not speedily removed, a general disease is induced, as we see in the case already mentioned, and as is proved by numberless other instances. These general affections are marked by ulcerations of different parts; and the ulcers have a different appearance, according to the nature of the morbid agent. In some cases they are better and worse at intervals. Mercury has, in almost all these cases,

been used ; but, although some are ameliorated by it, yet others resist its action. At first, indeed, they generally appear to heal ; for the mercurial action, when forming, interrupts the progress of the former diseased action ; but, whenever the mercurial action is fully induced, we sometimes find that the appearances change, and the progress generally becomes quicker than formerly *.

* Some actions cannot be induced during the continuance of others. Other actions can, in these circumstances, be formed, and displace completely the former action. A third set seem to give a modification to the original disease : They change it to a certain degree ; but the change is not salutary, and they never displace it. The mercurial action, when induced during the existence of some of the diseases which I am describing, comes under the last, or third class. At first, during the formation of the mercurial action, the former diseased action is interrupted, in the same way as the natural action is injured during the period of formation of other actions, when no peculiar disease previously existed. On this account, the sore assumes a better appearance ; and, if the action be nearly terminating naturally (as some ac-

THERE is a disease which is not unfrequently confounded with syphilis, but which is distinct from it ; I mean small ulcers about the mouths of children, which are more like aphthæ than any thing else ; but, soon after their appearance, small blotches appear in the body, which become first raised into a little flat vesicle, and then ulcerate superficially. These ulcers have a watery appearance, not much unlike tetter ; but the appearance of the vesication, and dark colour of the preceding blotches, prevent any confusion. Nurses who suckle these children have generally small calyciform ulcers on the nipples, of a pale colour, and discharging a thin watery mat-

tions do, and as the primary action in these diseases more readily does than the secondary), it quickly heals up ; but, if this be not the case, the appearances soon change, and the disease becomes much worse.

ter. I have had no opportunity of ascertaining what constitutional symptoms would be produced by the continuance of the disease in the nurse, as I have generally found that the application of diluted citrine ointment to the nipple produced a cure, without any internal medicine. The constitutional symptoms in the children were cured by the same local applications, with small doses of calomel internally *.

I HAVE likewise observed ulcers on the lips, throat, and mouth, which at first had a very doubtful appearance; but they evidently are distinct from syphilis, and belong to the suppurating sores. When superficial, the buff-coloured matter, or inorganised substance which co-

* There are some cases, described by different authors, of affections of the nipples and breasts, in which the ulcers appear to have been chiefly of the phagedenic kind.

vers them, has a fibrous, or thready appearance, the margins are slightly tumid, and of a florid, or kind of pink colour. The application of caustic, or burnt alum, is often sufficient of itself to cure these; but small doses of mercury sometimes accelerate the cure. At other times these sores penetrate deeper, and affect the bones. The surface, which is deep, is covered with a thick yellow slough, like an overacting ulcer. The margins are tumid, ragged, and of a light, or pink colour. Sometimes the disease spreads along the gum, which becomes soft, ulcerated, and separates from the teeth, which very frequently become black, and, when the sockets are affected, drop out. I have not had an opportunity of observing these sores go the length of inducing constitutional symptoms. It is not easy to ascertain the cause of these sores; sometimes they

succeed the use of mercury ; but, at other times, it is impossible to blame any evident agent. The transplanting of teeth sometimes has been the mean of inducing sores similar to these ; and, in these cases, the disease has generally passed for syphilis. But although the venereal disease may have been inoculated in this manner, it is certain, from the appearance of the ulcers, from their rapid progress, and from the sudden effect produced by a very small quantity of mercury, that the disease, which is commonly induced by transplanting teeth, is not syphilitic.

SIBBENS is another disease which has been very frequently confounded with syphilis, and is by many considered to be

* Cases of this kind may be found in Mr. Hunter's Treatise on the Venereal Disease, and in the third volume of the Medical Transactions.

only a variety of that disease; but they evidently are different, as appears from the mode of infection, and the properties of the contagion *, the appearance of the ulcers, their progress, and certain circumstances in their cure, particularly their requiring less mercury than venereal ulcers in the same state, and from their yielding readily to preparations of mercury, which do not accomplish a cure of syphilis.

THIS disease appears first on the part which is most directly acted on by the contagion. This part becomes red and inflamed, having an erysipelatous appear-

* This disease is communicated even by drinking out of the same vessel with an infected person, even although that person have no sores on the lips, but only in the throat. The contagion then must either be dissolved in the saliva, or remain very powerful, even when reduced to a state of halitus.

ance. Ulceration quickly takes place on a particular spot, and spreads rapidly along the whole inflamed part. The disease then advances more slowly; the erysipelatous appearance spreads around the margin of the ulcer, and ulceration follows upon the inflammation. In the course of some time (the precise period is not fixed), the skin becomes affected with blotches, or sometimes clusters of small pustules, the intervening space betwixt each being affected with an erysipelatous inflammation. These spots soon ulcerate, and the surface rises up into a fungous, which is irregular, and has an aspect somewhat betwixt the look of the venereal sore and a very bad scrophulous ulcer. The bones next become affected, particularly at the articulating surfaces, which swell, and become carious. It is said that the secondary ulcers in general appear first upon the genitals; but, of all those

whom I have examined, no affection of these parts had taken place, from which I would infer, that the disease has no peculiar tendency to affect these in preference to other parts. It is likewise said that the disease sometimes disappears from one part, whilst it breaks out in another ; but this also I have never witnessed. The primary ulcers also have no tendency, like some others, to change their appearance, and become milder, or heal by continuance, but spread, destroying the nose, orbits of the eyes, and face. The constitution seems to suffer much more from this disease than from syphilis, in the same length of time ; for the patient soon assumes a pale fallow look ; and hectic comes on much sooner than in syphilis.

THE cure of this disease is effected by washing the sores with solution of corro-

five sublimates, or dressing them with precipitate ointment, at the same time that we use mercury internally, without which no escharotic, or local application whatever will effect a cure. In general, less mercury cures this disease than syphilis; and it is worthy of remark, that permanent cures may be obtained by the hyd. mur. corros. which is not the case with syphilis. When the bones are affected, we must, in conjunction with the specific remedy, use such applications as the state of the bone, considered as a simple affection, will require.

THE cynanche maligna, and scarlatina, are also diseases producing ulceration in the throat. The sores are of the suppurating kind, a thick lymphatic-looking, or inorganised substance being thrown out, instead of organic particles, or granulations. This, in the former disease,

very soon becomes black, and putrefies ; but the slough so formed differs materially from that caused by gangrene ; for, in this disease, unless in the very last stages,* there are no real gangrenous sloughs. It is unnecessary here to make any particular observations on these diseases.

HERPES * is a disease which is very frequent, and often prevents large ulcers from healing, as these come to assume the action of herpetic ulcers, although, from their magnitude and depth, they do not put on the same appearance as when the disease is confined to the skin. The large ulcers are of a dark sloughy ap-

* There are many different divisions of herpes ; as, for instance, into the scurfy, scabby, miliary, &c. ; but, for a description of these, I must refer to the writers on the diseases of the skin.

pearance, discharge thin matter, are painful, and are surrounded with herpetic ulcers, and scabs in the skin. This is a very frequent disease on the legs, and is very tedious. Bathing with warm sulphureous water is often of service, at the same time that we dress the parts in the intervals with camphorated ointment. Citrine ointment is also very useful; but the following liquor is one of the best, and most effectual applications :

R. Pulv. Calcis Vivi Recen. unciam.

Flor. Sulph. semiunciam.

Aq. Font. sesquilibram. Coque ad
dimidiam dein cola.

This ought to be applied with cloths to the parts.

WHEN, by these means, the disease of the skin, and the specific action of the

ulcer is removed, pressure is often of service in completing the cure.

THERE is a specific ulcer, which is met with most frequently on the legs, and which is very troublesome. The skin becomes in several points inflamed, or of a dark red colour. These parts speedily ulcerate, and the sores belong to the suppurating kind, for no distinct granulations, or organic particles, are formed; but the surface is smooth and glossy, and the discharge thin and copious. These sores are generally pretty deep, in proportion to their extent, or of a cup-like appearance. They not unfrequently occur in scrophulous habits. Mercury, exhibited in small doses internally, appears to be useful. Precipitate, as a local application, generally answers very well; but, when the sores become irritable, or

spread under this treatment, hemlock poultices succeed better.

THERE is a small ulcer, which sometimes is met with on the foot, of an irregular shape, fiery appearance, and surrounded with thick jagged margins, which, in particular parts, are white, and callous. The neighbouring integuments are of a dark red colour. The discharge is thin, and the pain considerable. Caustic, and afterwards the application of the adhesive plaster, are the best local applications. Internally, the use of hemlock is sometimes of service.

IT occasionally happens, that, nearly about the same time, most of the patients in a ward of an hospital shall have their ulcers rendered unhealthy. They become foul, dark coloured, and spread: The discharge is thin, and the pain is

greater than formerly. The application of cloths dipped in gastric juice is sometimes of service in these sores, and is one of the best remedies ; but, not unfrequently, the patient must be removed to a different situation before a cure can be obtained.

HAVING made these detached remarks on some specific ulcers, I shall, in the succeeding dissertations, consider, at greater length, others, which are, in the general estimation, considered as more dangerous and alarming.

DISSERTATION IV.

On the Spongoid Inflammation.

THE disease which I am now going to consider, has either not been described at all by any author, or has, when it was noticed, been considered as of a cancerous nature. It is perhaps one of the most alarming diseases to which we are subjected; because, as yet, we know of no specific remedy; and an operation can only be useful at a time when it is very difficult to persuade the patient to submit to it.

I HAVE named it the spongoid inflammation, from that spongy elastic

feel which peculiarly characterises the disease, and which continues even after ulceration takes place.

THIS disease begins with a small colourless tumor, which, if there be no thick covering over it, such as the fascia of a muscle, or the aponeurosis of the foot, is soft and elastic, but tense if otherwise. It is at first free from uneasiness; but, by degrees, a sharp acute pain darts occasionally through it, more and more frequently, until the sensation becomes continued. For a considerable time, the tumor is smooth and even, but afterwards it projects irregularly in one or more points; and the skin at this place becomes of a livid red colour, and feels thinner. It here readily yields to pressure, but instantly bounds up again. Small openings now form in these projections, through which is discharged a thin bloody matter.

Almost immediately after these tumors burst, a small fungus protrudes, like a papilla, and this rapidly increases, both in breadth and height, and has exactly the appearance of a carcinomatous fungus, and frequently bleeds profusely. The matter is thin, and exceedingly foetid, and the pain becomes of the smarting kind. The integuments, for a little around these ulcers, are red, and tender. After ulceration takes place, the neighbouring glands swell, and assume exactly the spongy qualities of the primary tumor. If the patient still survive the disease in its present advanced progress, similar tumors form in other parts of the body, and the patient dies hectic.

ON examining the affected parts after death or amputation, the tumor itself is found to consist of a soft substance, somewhat like the brain, of a greyish colour,

and greasy appearance, with thin membranous-looking divisions running thro' it, and cells, or abscesses, in different places, containing a thin bloody matter, occasionally in very considerable quantity. There does not seem uniformly to be any entire cyst surrounding the tumor, for it very frequently dives down betwixt the muscles, or down to the bone, to which it often appears to adhere. The neighbouring muscles are of a pale colour, and lose their fibrous appearance, becoming more like liver than muscle. The bones are uniformly caries, when in the vicinity of these tumors. If large, they are found rough, and broken off into fragments; if small, they are generally soft and porous. This tumor is sometimes caused by external violence; but often it appears without any evident cause.

I KNOW of no remedy which has a power of checking the progress of the complaint, or removing it. Friction, with anodyne balsams, sometimes gives relief in the early stages; but it does not seem to retard the progress of the disease. Extirpation is the only remedy which has a prospect of being successful; but it is only adviseable in the early stages, whilst the disease is entirely local, and has not extended to the neighbouring glands; for, after they become affected, the chance of recovery is greatly diminished. It is, however, sometimes difficult to persuade patients at this time to submit to amputation, or extirpation, because the pain and inconveniences are inconsiderable; but the operation ought to be urged with all the eagerness which a conviction of its absolute necessity, and its precarious issue, if delayed, will inspire.

AFTER making these observations, I shall illustrate the subject with the following cases, the first of which is intended to show the difficulty of extirpating the disease, when the operation is delayed after the first appearance of the tumor. In the second, we see the destruction which the bones suffer by it, and the extent of parts which it may affect. The third gives us an instance of the affection of the glands: And the fourth, of the most advanced stage, or that in which distant parts have suffered. The last is an instance of the good effects of an early operation.

CASE I.

WILLIAM STIRLING, without any very evident cause, perceived a small tumor on the top of the shoulder, about midway betwixt the termination of the

Q q 2

neck and the articulation of the humerus. This gradually increased for some months, and by the time when I saw him was larger than a goose's egg : It was spongy and elastic, and attended occasionally with pain.

ALTHOUGH the duration of the tumor was an unfavourable circumstance, yet I undertook the operation. I made an incision through the whole length of the skin, and dissected it off the tumor, (the upper part of which was covered with a coat, or cyst), down to its base ; but, when I now began to separate it from the parts below, I found that it had no defined bottom, but penetrated down betwixt the muscles, which were soft, pale, and had lost their fibrous structure. I therefore cut off the tumor close by the muscles, and then separating them with the back of the scalpel, I removed with the

finger as much of the tumor as I could observe. Several arteries sprung; but these were pretty readily tied, although the vessels were very tender. A troublesome oozing, however, took place from many points of the diseased muscles. This was moderated by applying the sponge dipped in cold water, after which the skin was laid down, and its lips brought close together.

ON dressing the patient on the third day after the operation, the skin was found not to have united; but its lips were red and inflamed. In this state it continued for several days, when the part began to grow tumid, and discharge a thin foetid matter. The skin then retracted still more, and a fungus protruded, which gradually increased; but it was smooth and regular, and of a pale colour, so that it rather had the appearance of a super-

facial ulcer, raised up by a tumor from below, than the ulcerated surface of a diseased substance itself. In this state it continued for two or three months, when irregular projections appeared on the ulcerated surface of the new tumor. These soon burst, and a fungus protruded, of a carcinomatous appearance, and bleeding very frequently and profusely. Swellings of the axillary glands succeeded this, and the patient became much enfeebled, and evidently hectic. As I have not heard of him for several weeks, I suppose that he has died.

IN this case a second tumor succeeded to the first, owing to the impossibility of extirpating the whole, and this exactly resembled the original one, except in having its surface covered from its commencement with an ulcer; but this ulcer was not the specific one of the spongioid inflammation.

CASE II.

JOHN OVEREND was attacked with pain in the right thigh and loins, which were considered as rheumatic. Shortly after the thigh was observed to be elongated, and issues were applied over the hip joint, upon the supposition of its being a common case of morbus coxarius. But no considerable relief was obtained by this; on the contrary, the upper part of the thigh swelled, whilst the lower part wasted, his appetite diminished, his pulse was quickened, and he passed sleepless nights. The thigh was rubbed with anodyne balsam, and draughts with laudanum were given every night, but only with temporary benefit. For the course of some months these complaints continued, with occasional remission and aggravation. At last he began to complain

of difficulty in making water ; and this soon ended in a complete retention. The catheter was attempted to be passed ; but although its point was bent, and directed so as to correspond to any deviation of the prostate gland from its right situation, it could not be introduced. By examining per anum, a large elastic tumor could be felt in the pelvis, which was considered as the bladder. A trocar was therefore passed up the rectum, and the bladder attempted to be tapped. A considerable quantity of bloody fluid came away ; but he complained of no pain at the glans, which most patients do when the bladder is wounded ; and a considerable quantity of high coloured foetid urine was voided by the urethra, and continued even afterwards to be passed, although with some difficulty. Within a week after this the patient died.

ON dissection, I found the hip joint to be completely furrounded with a soft matter, resembling the brain, inclosed in thin cells, and here and there cells full of thin bloody water ; the head of the femoral bone was quite carious, as was also the acetabulum. The muscles were quite pale, and almost like boiled liver, having lost completely their fibrous appearance, and muscular properties. On opening the abdominal cavity, the same kind of substance was found within the pelvis ; and the greatest part of the inside of the bones of the affected side were quite carious. Large cells were found in this diseased substance, containing bloody water ; and it was into one of these that the trocar had entered when the bladder was attempted to be tapped.

CASE III.

JAMES WALKER received a stroke upon the outside of the foot, immediately below the ankle joint. A small tumor instantly formed, which continued stationary for several weeks, and gave him little uneasiness; but afterwards it began to increase, and was attended with a shooting pain. The tumor was elastic, pretty tense, and rather irregular in its appearance. I was anxious to operate, but the man would not give his consent. I therefore advised frictions with anodyne balsam, which at first gave him relief, but soon lost its effect. For several weeks I heard nothing of him; but, at the end of this time, he again applied to me. The irregularities of the tumor were much greater, more prominent, of a red colour, and one of them

had burst: From this a soft half-organised fungus protruded, and a bloody fluid run out constantly. An operation was again urged, but the timidity of the patient made him again refuse. A month after this he came under the management of another surgeon. There were now three openings in the tumor, from each of which protruded a broad cauliflower-looking fungus, covered with thick foetid matter; there was likewise a thin red serum discharged from the margins of the ulcers. The tumor was as large as a child's head, and one of the inguinal glands was a little swelled. The man now consented to lose his limb, and amputation was accordingly performed. Whenever the tourniquet was applied, a very copious stream of venous blood issued from the tumor; but this ceased when the veins had emptied themselves. Unluckily it was considered as

unnecessary to extirpate the diseased gland.

ON examining the leg, all the bones of the ankle joint were found to be quite soft and carious ; the tumor consisted of a soft substance, resembling the brain, with light membranous intersections. The cyst on the upper part was hard and thick, but beneath it was entirely wanting, having either never been formed betwixt the tumor and the tendons of the muscle, or having been destroyed. The former opinion is the most probable ; for I have never in any stage found the cyst continued over the under or back part of the tumor, but it always terminated imperfectly in the part on which the tumor was seated.

THE wound healed as well as could be desired, but the gland became rather

larger, notwithstanding which no operation was urged. Two months after this I was requested to visit him. The gland was now as large as the head of a newborn child ; it was soft and spongy, and had at one part an irregular prominence, but the skin was not coloured. The pulse was about one hundred and thirty, and the patient completely hectic. In this situation I proposed nothing excepting nourishment. He died in the course of a week after I saw him,

CASE IV.

THE following case shows this disease in its most advanced stage. It is extracted from the fifth volume of the London Medical Journal, and is intitled, “ An
 “ Account of the Fatal Effects produced
 “ by attempting to remove a Ganglion

“by Seton.” It was drawn up by Mr. W. Dease, surgeon in Dublin.

“IN July 1781, a clergyman, aged thirty-seven, consulted me about a moveable ganglion, of the size of a small nutmeg, situated between the fore-finger and thumb of his right hand, near the wrist. He was eager to have it removed, and had been advised, for this purpose, to have a seton passed through it, as the best and most certain method; but, as he was apparently a robust healthy man, and the ganglion was attended with no pain, I advised him to consider it as a matter of no consequence, and not to meddle with it. Four months after this I was desired to visit him, and found him in a melancholy situation. A seton had been passed through the ganglion, and the consequences were, that the back of his hand had inflamed violently, that

the ganglion had rapidly and amazingly increased, and that the openings made by the seton were filled with an ill-conditioned fungus, which sprung up as fast as it was removed, and was attended with frequent hemorrhage, and much pain. In consultation, it was agreed to remove this fungus by a free incision, which was done, and the metacarpal bones appeared bare and rough. Another opening was made through the thenar, and a seton passed through it, in order more effectually to prevent the growth of fungus. The bark was administered in large quantities, an opiate was given at night, and due attention was paid to the regimen of the patient. This method seemed to promise the most happy event. The fungus appeared to be entirely destroyed, a laudable suppuration took place, the swelling of the hand subsided, and the sores in a short

time were so contracted as to indicate their speedy cicatrization. These favourable appearances, however, were not of long continuance; for, after some time, the fungus began gradually to rise again, and any mode of keeping it down, either by caustic, cutting, or pressure, seemed to produce no permanent good effect, as it increased rapidly, and at length degenerated into the most frightful cancerous fungus I have ever seen. Every local application that has been recommended in similar cases was tried in this, but without success; and internal remedies proved equally inefficacious. He took, for a considerable length of time, two ounces of bark in substance, in the course of twenty-four hours, so that he took, in the whole, twenty-eight pounds of that medicine. The extract of hemlock had also a fair trial, but produced no apparent effect.

“ WHEN he had laboured under this complaint fifteen months, he was advised to undergo the amputation of his hand ; but before he would consent to submit to this operation, he chose to have an account of his case transmitted to the Royal Academy of Surgery at Paris, that he might have their opinion of it : The result of which was, that the members of the academy pronounced the fungus not cancerous, but merely scorbutic. This decision, by the bye, should make us extremely cautious in delivering our sentiments on similar occasions, without seeing the patient, as much depends on the general appearance of the fores in cases of this sort. The academy were of opinion, that the disease was entirely local, and required only local treatment. For this purpose, they advised that the fungus should be taken down by means of euphorbium, savine, &c.

and afterwards washed with salt water. If this method proved ineffectual, recourse was to be had to the actual cautery, from the application of which they seemed to expect the most decisive advantages. To this mode of treatment the unhappy sufferer submitted; and, during the space of six weeks, the fungus was almost every day burnt down with the actual cautery; but his complaint all the while continued to gain ground apace; so that being now disappointed in all his expectations of relief from regular practitioners, he had recourse to quacks of every denomination. The arsenic plaster of Plunket was applied, and he was salivated for seven weeks. At length, after undergoing the operation of a variety of nostrums, he again placed himself under my care. In consultation, it was much doubted whether amputation should now be thought

of, as the patient seemed to be in the last stage of a cancerous consumption. His limbs were swelled, and his whole habit was wasted by the repeated hemorrhage from the fungus, which was now so increased in bulk as to weigh down his arm, and entirely cover the back of his hand. In short, after every return of hemorrhage, it was apprehended that the next would put a period to his sufferings.

“ THE hazard of the operation, and the little chance he had of its proving successful, being explained to him, the unfortunate man earnestly begged to be relieved from so hideous a load, even though he should die under the operation. I therefore yielded to his entreaties, and took off the hand a little above the wrist, in November 1782, although there was a small indurated gland above

the elbow. On dissecting the hand immediately after I had taken it off, the fungus, on being cut, appeared to be extremely similar to the substance of the brain, and to arise from the metacarpal bones of the middle and fore-finger. These bones were in part dissolved, and the other bones of the hand were also in a morbid state.

“ No accident occurred during the amputation ; but soon after it, a colliquative diarrhœa came on, which seemed to be increased by opiates and astringents, but was at length checked with draughts of fixed alkaline salt and lemon juice, swallowed in the act of effervescence. He afterwards took the bark, drank feltzer water, and was allowed a liberal use of wine. The suppuration for some time was ichorous and bad, but he gained strength daily. At the end of seven

weeks, the stump was completely cicatrized, and the indurated gland above the elbow had disappeared. He went into the country, drank goat's whey, bathed in the sea, became very corpulent, and seemed to be in perfect health, but had somewhat of a fallow bloated appearance. He continued well till July 1783, when he began to complain of pains in his back, attended with rigidity. These pains, as they increased, extended down his thighs and legs, and occasioned him to sleep ill at night. He grew feverish, his pulse beat extremely quick, and his countenance acquired a shining yellowish red colour, an appearance which I have remarked to be characteristic of a cancerous habit. He now began to walk with difficulty. I took a small quantity of blood from him, and found the texture of the crassamentum extremely loose, and the serum in too

great quantity. He was very difficult to purge, and unfortunately was under a constant necessity of taking medicines to procure the necessary discharges. Antimonials in a variety of forms were given, and the bark was again tried, as were all the medicines that are usually prescribed in rheumatic cases. Blisters were applied, and issues cut in his thighs, but all to no purpose. He was obliged to take to his bed in August, and never after quitted it.

“ It is difficult to form an idea of the constant and excruciating pain this poor man suffered. Opium, though given in large doses, afforded him but little relief, and at last none at all. He generally lay on his back, fixed as it were to the bed, the least motion occasioning the most intense pain. As the disease advanced, he complained of a difficulty of

passing his urine, which was loaded with a viscid mucus, and he once discharged an oblong calculus; but at last he voided his urine involuntarily, and sometimes even his fæces, but the latter only rarely, when he had taken a purgative, which, as I have already mentioned, was required to be of the most active kind, otherwise it produced no effect.

“ DURING the whole course of the disease, his pulse was rapid, but his tongue was remarkably soft and florid. He was never delirious. Latterly, he spit blood once or twice; his lower extremities became very œdematous, and his back was covered with eschars; but these dropped off, and the sores suppurated and healed kindly. Two months before his death, his pains abated considerably. He died without pain, March 4. 1784. which was about two years and

nine months from the time the seton was passed, and a year and four months from the time he underwent the amputation.

“ His body was opened a few hours after his death. The abdominal viscera appeared to be perfectly sound, and of their natural colour, except the liver, which had a small steatoma on its convex surface, but was in other respects healthy. The gall bladder was rather fuller of yellow bile than it is generally found to be. The left kidney was enlarged, and on dividing it longitudinally, much red gravel was found in its pelvis, and the ureter seemed much lessened. The urinary bladder was contracted, and its coats uncommonly thickened, but no fabulous concretions were observed in it.

“ ON each side of the vertebræ lumborum, the lumbar regions were rendered convex by a large cancerous deposition, which elevated the psoæ muscles ; and when the cellular investitures, which were condensed into a cyst, were opened, the cancerous matter appeared in a large quantity, in colour and consistence exactly resembling the fungus of the hand, and not unlike the substance of the brain. The whole weighed about five pounds ; and when this was removed, the last vertebra of the back, and the three first of the loins, were found to be in a softened, eroded, and in some parts a totally dissolved state. There appeared not the least mark of ichor, sanies, inflammation, or hardness of the soft parts ; nor were the mesenteric glands at all affected. The matter seemed to have been really a cancerous exudation, and to be formed chiefly of coagulable lymph. This can-

cerous mass seemed to possess a remarkable dissolving power, which was exerted wholly on the bones, and did not, as usual in cases of this sort, cause any schirrous hardness of the surrounding soft parts."

CASE V.

A WOMAN, some time after receiving a blow on the leg, perceived a small moveable tumor. It was soft, elastic, and seated on the outside of the leg, about half way betwixt the knee and ankle joint. I made a small incision through the skin down to the tumor, and dissected it off to its base. I then dissected the substance off from the fascia of the muscle, and brought the skin together with adhesive plaster. It united readily, and the patient was cured. The tumor was soft, like brain, of a greyish colour, and greasy consistence.

DISSERTATION V.

On the Scrophulous Inflammation.

SCROPHULA is a morbid condition, which has been called the opprobrium of surgery, much more justly perhaps than any other disease, cancer itself not excepted, for even this most dreadful disorder may be removed by an early operation; but the nature of scrophula admits of no treatment equally successful.

FROM the obscurity in which its causes are involved, and from no certain method of cure being known, I can only

make a few unconnected remarks on this disease.

A SCROPHULOUS system is generally marked by a fine skin, delicate complexion, light blue eyes, with opaque sclerotics, and frequently a swelling of the upper lip. At other times, especially in those who belong to what has been called the melancholic temperament, the complexion is darker, and the skin coarser; but in these, at least when young, the face is generally tumid, and the look unhealthy.

IN these systems, as will presently be observed, almost every disease is different, in some points, from the same disease when it occurs in a healthy person; but the action which more decidedly manifests this modification, is the inflammatory, inasmuch, that, by some, scro-

phula and scrophulous inflammation have been confounded ; and this disease has been described only in so far as it has appeared conjoined with inflammation. We have therefore almost always in the description of scrophula a swelling of the glands, and subsequent ulceration, or inflammatory affections of other parts of the body, detailed as necessary and essential symptoms.

THE scrophulous inflammation is marked by a soft swelling of the affected part, which very frequently is one of the lymphatic glands. The covering, or coat of the gland, becomes slightly thickened, and its substance more porous and doughy *. The swelling increases, and

* When the conglomerate glands are affected, the tumor is generally hard and firm until matter forms.

the doughy feel changes by degrees into that of elasticity, or fluctuation, and a firm stool, or circumscribed hardened margin, can be felt round the base of the tumor. The skin is slightly red. If, at this time, an incision or puncture be made, either no matter, or very little, is evacuated, the lips of the wound inflame and open, displaying a sloughy-looking substance within, and betwixt this and the skin a probe can often be introduced for some way all round. If, however, the disease have been farther advanced, then there is very little elasticity in the tumor, it is quite soft, rather flaccid, and fluctuates freely; the skin becomes of a light purple colour, and small veins may be seen ramifying on its surface. In some time after these appearances are observed, the skin may be felt becoming thinner at one particular part, and here it also generally becomes of a darker co-

lour, then it bursts, and discharges a thin fluid like whey, mixed with a curdy matter, or thick white flocculi. The redness of the skin still continues, but the aperture enlarges in proportion as the tumor subsides, forming the scrophulous ulcer. The margins are smooth, obtuse, and overlap the ulcer; they are of a purple colour, and rather hard and tumid. The surface of the fore is of a light red colour; the granulations are flabby and indistinct; and the aspect is of a peculiar kind, which cannot be described. The discharge is thin, slightly ropy, and copious, with curdy-looking flakes. The pain is inconsiderable.

WHEN this ulcer has continued for some time, it either begins slowly to cicatrize, or more frequently the discharge diminishes, and becomes thicker; it then hardens into an elevated scab, of a dirty

white, or yellowish colour. This continues for a considerable time, and then crumbles off, leaving the part covered with a smooth purple cicatrix. This description corresponds to the mild scrophula, or the struma mansueta of the older writers ; but occasionally, especially if a bone be diseased below the ulcer, the sore has a more fiery appearance, the surface is dark coloured, the margins soft, elevated, and inflamed, and sometimes retorted. The discharge is watery, the pain very considerable, and the surrounding skin inflamed. This has been called the struma maligna, and was said to be marked by the greater degree of hardness and inequality in the tumor, varicose veins, and pulsatory pain : It was likewise said to be contagious. But although occasionally this state of the scrophulous ulcer be preceded by a hard and painful tumor, yet it is not necessa-

rily so, but rather seems to depend upon a disease of the parts below, which generally are bones, cartilages, or tendons in a morbid state; and hence this overacting scrophulous sore is most frequent over the smaller joints, particularly the toes.

SOMETIMES the scrophulous abscess, after bursting, forms a sinus, the mouth of which ulcerates, and assumes the appearance of the specific ulcer; but the track of the sinus remains in a suppurating state. This not unfrequently is connected with a diseased bone, or cartilage, or tendon.

SCROPHULOUS tumors and ulcers more readily disappear during the winter, and return again on the approach of summer; but this is by no means an universal law of the disease.

It is likewise observable, that swellings of the glands are very apt to subside pretty rapidly in one place, and appear equally quickly in some other glands, in the vicinity of these originally affected. Ulcers likewise frequently heal upon the appearance of the disease in other parts.

WHEN the joints become affected, the cartilages swell, and the quantity of the lubricating matter is increased; the tendons are surrounded with a glairy matter, like the white of egg; and, lastly, the bone becomes enlarged. These effects are attended with stiffness and pain in the joint, which is sometimes intolerable, especially during the night, and confined to a single spot, from the disease residing chiefly there. In some time after this, small abscesses form in different parts of the inflamed joint, which gives it a spongy elastic feel. These bursting into one ano-

ther, form a larger cavity, which communicates with the articulating surface of the bones, and reaches to the skin, through which a fluctuation may be felt. This abscess at last bursts, and discharges a curdy matter. Long before this happens, the bone generally ulcerates, and becomes rough. This disease is uniformly attended with hectic, which terminates the patient's misery.

Not unfrequently, in scrophulous people, eruptions appear on different parts of the body, especially on the face, which is covered with pustules of a dark red colour, suppurating slowly, and sometimes never.

At other times, we find incysted tumors on different parts of the body. These may appear in any habit; but when they occur in scrophulous people,

they assume the specific action of the constitution ; in which case, instead of containing an uniform fluid, like thin jelly, of a yellowish colour, as the simple incysted tumor does, they are filled with a thick curdy purulent-looking matter, or with serum, containing white flakes, or little lumps, of a white substance.

ALL the causes capable of inducing simple inflammation will of consequence induce the scrophulous inflammation, provided that the inflammation be not induced in such a way, and in such organs as make it heal rapidly, as will be afterwards noticed. Specific inflammation is likewise modified when it takes place in a scrophulous constitution, and is much more tedious in its cure. This is evidently seen in the small pox and venereal disease.

ALTHOUGH the effects of a scrophulous constitution, in modifying action, be most distinctly observed in the inflammatory action, yet it does not operate exclusively on this ; on the contrary, we find, that typhus fever, and some other actions, which may exist without any perfect local inflammation, are, *cæteris paribus*, more violent in scrophulous habits than in others.

THIS constitution is more easily acted on by certain agents, particularly such as tend to induce inflammation, than healthy constitutions in the same circumstances. It would likewise appear, that, on the contrary, there are other agents which operate with more difficulty. It is in general observable, that scrophulous people are less easily affected with mercury. On a few, indeed, it operates readily ; but, when we attend to the general habitude

of these people, we must consider the aptitude of some individuals to assume the mercurial action to depend on some peculiarity of constitution, unconnected with the scrophulous condition.

By the ancients, and many of the moderns, the pituita was considered as the cause of scrophula, producing tumefaction, by stagnating in the glands. When any of the bile became mixed with the pituita, then the inflammation was more violent, and the ulceration deeper. Some latter writers, convinced that a simple redundancy of any particular humour could not produce scrophula, had recourse to the supposition of an acrimony, which was productive of swelling and ulceration, and which might "taint the whole fluids of the body *."

* Cullen's First Lines, Vol. IV.

OTHERS attempted to explain this disease, upon the principle of debility existing in the whole body, but particularly in the lymphatic system *. This is an idea still more puerile than the doctrine of morbid humours, which, however unfounded, had several plausible arguments to support it, and which was incontrovertible until the laws of the animal economy were better understood. Simple debility never can give rise to the marks of the scrophulous constitution; it cannot produce ulcers of a nature and appearance so peculiar; neither can it explain why particular parts are more apt to be affected than others; because, if debility exist equally in every part of the absorbent system, then every part ought to be alike diseased; and if it exist only in particular parts, then it is necessary to

* Bell's Treatise on Ulcers, p. 424.

point out some cause of this partial debility. We likewise frequently observe very great debility in this system, owing to general weakness, and yet no symptoms of scrophula appear in consequence.

SCROPHULOUS people possess a peculiar constitution, and may therefore be said to constitute, in one respect, a distinct variety of the human race. This state is produced by a peculiar condition of the semen (owing to the peculiarity of the system which forms it), or of the female organs of generation, which possess the same general nature with the body, of which they form a part. When the organs of generation in both sexes are healthy, that is to say, similar in nature to what may be considered as the proper nature of the human race, taken as a distinct class of animals, then the semen stimulates the ovarium to the formation

of a healthy child, or one which possesses a constitution, or susceptibility of performing, and having actions induced in it, similar to that of the majority of mankind. In this process, the ovarium is to be considered as a gland, and the semen as its peculiar stimulus. If, however, either the nature of the gland, or of its stimulus be changed, it is evident that the action induced must be more or less modified, and the secretion or product changed to a greater or less degree in its nature and properties. Were it possible for a progeny to be produced by an intercourse betwixt the human and the brute creation, they would possess a nature different from both, or perform actions of a mixed kind. This may be observed with regard to mules amongst brutes. In the same way, a healthy and scrophulous person must produce a child

which differs from a healthy one, in having a certain peculiarity of constitution.

AGENTS produce different effects in different animals ; thus the matter of cow-pox applied to the cow and to man produce very different appearances. Agents likewise, in the same genus of animals, produce different effects, according to the peculiar constitution of the individual. Thus, the matter of small-pox in some men produces only a slight local sore, whilst in the generality it produces a general disease, and eruption. The same disease affords an instance of changes taking place in the constitution after birth, by the establishment of certain actions ; for it is rendered unsusceptible of the same action being induced afterwards ; and, in this respect, is brought to resemble the constitution of a different genus of animals, with regard to that

disease. There are some constitutions, such as those called irritable, in which certain symptoms of febrile, and other actions, are much more violent than in people of a different description. In them, for instance, typhus fever is attended with a very frequent pulse, and yet the other effects of this action are not violent in the same proportion.

PECULIARITY of constitution is often manifested by no evident sign, and the modifications of actions induced are often marked by no perceptible diseased phenomena, which may be considered as belonging exclusively to that constitution. But, in the scrophulous constitution, there are, in almost every instance, perceptible modifications of the formative action *, producing a peculiar appear-

* The morbid condition of the formative action is very frequently manifested in the bones, which are less perfect,

ance of the eye, countenance, &c. as has already been mentioned; and although some diseased actions, which receive modifications from this peculiarity of constitution, may not be attended with obvious alterations, yet others, especially such as are attended with an inflammatory condition, are distinctly changed. It is these changes which constitute what in common language has been called scro-

that is to say, softer, containing less calcareous earth, and later of being formed. Thus, the teeth are longer of appearing; the bones of the head are soft and yielding, and hence the head is large; the long bones bend and lose their shape, or their extremities swell, and, from being more vascular than their nature is fitted for, inflammation is very apt to be induced. The yielding and increasing of the bones of the cranium is likewise attended with a similar effect, for the brain becomes too large in proportion to the rest of the body, and is very apt to inflame, and have effusions formed into it. At other times, the diseased state of the formative action appears most distinctly at the surface, the skin being rough, and very apt to desquamate.

phula, which is merely a peculiarity of a common action (namely, inflammation), which is dependent, not upon any particular nature of the agent or exciting cause, but upon the peculiarity of constitution, which is susceptible, by these agents, of such an action.

FROM what has been said, it will appear, that I consider the scrophulous inflammation, or what has in common language been called scrophula, merely as an accidental circumstance, occurring in a scrophulous constitution; but it is by much the most dangerous and troublesome effect of the peculiarity of constitution. It has likewise a very evident effect in increasing this condition of the system; for we find, that the probability of scrophula appearing in a child is, *cæteris paribus*, correspondent to the presence or absence of scrophulous inflam-

mation in the parent ; or, in other words, that those who have either at the time of marriage, or before it, had scrophulous inflammation, are more likely to have their children strongly scrophulous, than others of the same family, who have not had inflammation. It is likewise certain, that if, by any cure, we can, for one or two generations, prevent the appearance of scrophulous inflammation, the children will become less and less diseased, or have less peculiarity of constitution ; but if, by any accident, scrophulous inflammation be in one of the descendants excited, even in a slight degree, his immediate progeny will be more diseased than he himself before the induction of the inflammation *.

* Some gentlemen have denied that scrophula was a hereditary disease ; but it is unnecessary to offer any argument on this subject.

WITH regard to the exciting causes of scrophulous inflammation, I may remark, that they are similar in kind to those capable of inducing simple inflammation; but they frequently operate more powerfully; that is to say, causes which would scarcely induce inflammation in a healthy person, may induce a local disease, and inflammation, in a scrophulous habit; because the different parts of the body perform their functions less healthily in a strongly scrophulous person, and are more easily deranged. In every system, those parts which are most delicate, or require the greatest perfection of action in order to keep them right, are most easily deranged. Now, in scrophulous people, the natural action being modified, the body becomes more delicate, and is more susceptible of derangement, especially those parts which naturally are deli-

cate *, or require a perfection of action. The glands seem to be amongst the most delicate organs ; for they have not only to perform the formative, or nutritive function, in common with every other part, but they have also to perform a separate and distinct function, or change the nature of certain fluids which are brought to them. It is on account of the natural delicacy of the glandular system being increased by the diseased condition of the general system, and of the exposure of the lymphatic glands to the action of stimulating matter, taken up by the absorbents on the surface, as, for instance, matter from scabs on the head of children, that this species of inflammation most commonly appears in the

* This term is used here in a different sense from its common one, which signifies sensibility, or delicacy with regard to sensation, and capability of being acted on.

lymphatic system ; but this system does not seem to be the peculiar seat of the diseased condition, as some suppose, nor to be otherwise predisposed to scrophulous inflammation, except in so far as its natural delicacy is increased by the diseased condition which it possessed, ab initio, in common with the rest of the body ; and consequently it is rendered less able to perform its functions properly, the effect of which is, the induction of a new local diseased action, or slow inflammatory action, by the slightest cause.

BESIDES the common exciting causes of inflammation, the particular formation of organs may induce this disease, or at least make very slight causes produce it. Thus, for instance, in people with a very small narrow chest, the circulation of the blood must be performed with greater action than in other circumstances, and

thus may tend to induce an inflammatory state. When the bones are very vascular, and imperfectly formed, they are apt to have a morbid degree of action excited in them by very slight causes; and the same holds true with regard to any other part of the body which is imperfectly formed, or which is not exactly fitted for the support and performance of its requisite action *.

* Parts which are improperly organised, or which are not in every respect similar, both in their structure and constitution (by which I mean, mode of acting in general), to what naturally they ought to be, are not only less capable of performing their actions aright, but likewise are to be considered as in some respect extraneous to the human body, or, as it were, insulated, and do not correspond exactly to other parts. They therefore receive less support from the neighbouring parts, and, consequently, have their power diminished. The imperfection of action consequent to these causes is proportioned to the morbid condition of the part.

SCROPHULOUS inflammation is in general dangerous and tedious, in a degree proportioned to the effects and duration of simple inflammation upon the same parts. Thus, simple inflammation of one of the conglobate glands of the neck, is tedious, but not dangerous ; and the same holds true of scrophulous inflammation ; but the duration of this is much longer. Simple inflammation of the lungs, again, is dangerous ; and scrophulous inflammation is infinitely more so. Such parts as heal easiest, when affected with simple inflammation, or ulceration, recover soonest from scrophulous inflammation ; and the same causes which retard the one will retard the other also. Thus, the same cause which renders a superficial simple ulcer unhealthy and chronic, will prevent a superficial scrophulous ulcer from healing : But, if none of these causes operate, then scrophulous inflam-

mation, or ulceration, will heal pretty readily, provided that simple inflammation, or ulceration of the same parts, would do so ; but, for this purpose, it must be quickly induced ; for all inflammation, or ulceration, which is slowly induced, is slowly removed. As a confirmation of these positions, we find, that a blister on a scrophulous person will heal readily, because the inflammation is induced acutely, or with a certain degree of quickness, and has, when the affection is simple, a promptitude to heal, which manifests itself also in scrophulous people. In this instance, the difference in the time required to heal the inflammation in a sound and a scrophulous person is not perceptible ; because the affection, if simple, has a tendency to heal immediately. But, in a deep wound, especially if contused, we find the difference more marked ; because here, al-

though the constitution be healthy, the duration of the disease is considerable ; and, in a scrophulous person, the cure is protracted still longer, and the sore assumes a specific appearance. In diseases of the glands, the difference is still more perceptible ; because the disease, although simple, is longer in duration. In affections of the bones and cartilages, the same is observed. When a bone is fractured in a healthy person, it unites without inflaming ; and, in a scrophulous person, unless the diathesis be exceedingly strong, it likewise does so, but the union is longer of taking place ; but, if a bone inflames in a sound person, the disease is very tedious ; and, in a scrophulous habit, it is infinitely more so. The same holds true with regard to tendons and cartilages ; and hence the greater danger of a sprain in a scrophulous than a healthy person. From these, and

other facts, which it is altogether unnecessary to mention, it fully appears, that scrophulous inflammation is tedious and dangerous, in proportion to the progress and effects of simple inflammation and its consequences, when it attacks the same parts ; but this proportion is not regular and uniform ; but the duration increascs, in a higher ratio, in proportion as the simple inflammation and ulceration of the same parts, and in the same circumstances, is tedious. Thus, a deep wound in a healthy person is pretty long of healing ; but, in a scrophulous person, it is much more so. Simple inflammation of a gland is still more tedious than the same extent of inflammation in cellular substance ; and scrophulous inflammation is still longer of running its progress ; but the proportion betwixt the duration of the scrophulous inflammation, in these two cases, is not exactly as

the duration of the simple inflammation of the two, compared with each other, but is in an increased ratio.

WHEN scrophulous inflammation is excited in the vicinity of a part already possessing this action, it occasionally removes the action from that part, in the same way as inducing simple inflammation by a blister in one part cures the same disease in another part in the vicinity. It was an observation of this fact which made it be considered as part of the description of scrophulous tumors and ulcers, that they not unfrequently disappear in one place, whilst they show themselves in another ; but, in every instance, this disappearance is an effect, and not a cause ; for we uniformly observe, that, before it takes place, the new part has begun to inflame or swell.

WITH regard to the diagnosis of scrophula, it is impossible to say any thing satisfactory ; because, as long as the inflammation remains trifling, and the skin sound, it is very difficult, if not impossible, to distinguish a scrophulous swelling from any other of a different kind. Much assistance has been supposed to be derived from the situation of the tumors, most of those which appear in the neck being considered as scrophulous ; but this is certainly a false principle. From the same method of reasoning, most swellings in the groin have been considered as venereal, whilst many are of a very different nature, and not a few scrophulous. The best plan is to attend to the appearance of the body in general, and to the presence or absence of the sign of a scrophulous system ; next, whether any ulceration be present, by the absorption of matter, from which these swellings

may have been produced. If these be present in a system not possessing the marks of scrophula, the probability of the tumor being scrophulous is less; but, if the system be evidently scrophulous, then we must consider, whether the glands, originally swelled by the absorption of matter, have assumed the slow inflammation of a scrophulous nature, or have assumed a different species of inflammation, dependent upon the peculiarity of the matter; for they can scarcely be supposed to be simply inflamed. Scrophulous swellings of the lymphatic glands are generally soft and doughy, and frequently give the feel of containing a fluid long before suppuration has taken place. They are at first free from pain, and, in mild cases, even toward the end, the pain is inconsiderable. When matter is formed, the skin generally becomes purple, and then gives way in a small spot. Swellings of

the secreting glands are to be distinguished from schiro-cancer, by the hardness being less, the pain very inconsiderable, the presence of a scrophulous habit, and by the feel of fluctuation much earlier than takes place in cancer. Upon the whole, the presumption of any affection being scrophulous, is to be formed by the presence of the marks of a scrophulous diathesis, and the absence of such symptoms and appearances, whether antecedent or present, which characterise inflammation of a different species, or make us suppose it to have taken place, whether this be simple or specific. Scrophulous ulceration is distinguished by its peculiar aspect, joined with the marks of a scrophulous habit.

Of the Treatment of the Scrophulous Inflammation.

IF the foregoing reasoning be just, it will appear, that, in scrophulous habits, our great attention ought to be directed to the prevention of the scrophulous inflammation, which is to be done by avoiding, as far as lies in our power, the operation of any agent tending to excite inflammation. It has been observed, that, in scrophulous systems, very slight causes were sufficient to produce disease; because the parts on which they act possess a peculiar constitution, and are less capable of performing their natural and healthy functions properly, and therefore are sooner rendered diseased. Inflammation may also be induced by the structure of the part being such as to

prevent it from carrying on its functions properly, and therefore the same effect is produced as in the former case, where the constitution, or mode of action, and not the evident structure or mechanism of the part, was affected.

THE lungs are to be prevented from assuming the scrophulous inflammation, by avoiding, in the first place, all the common exciting causes of pneumonia, such as cold, damp, &c. It is, in the next place, to be prevented, by avoiding such causes as tend to increase the circulation in the chest, or affect the function of respiration. Hence, violent exercise, climbing ascents, intoxication, thick hazy atmosphere, are to be guarded against.

THE lymphatic glands are to be prevented from inflaming, by avoiding exposure to cold, and to the other common

causes of inflammation, but especially by preventing the absorption of irritating matter, such as matter from sores, and the like. A neglect of this is perhaps one of the most frequent causes of scrophulous inflammation ; for swellings of the glands of the neck can very often be distinctly traced to scald head, to ulcerations about the ears, little sores in the mouth, caries of the teeth, or to the absorption of particles of food allowed to remain and undergo fermentation in the mouth. The greatest attention ought therefore to be paid to cleanliness. The head ought, in scrophulous children, to be washed daily, and the sweat removed from behind the ears ; vermin ought to be diligently removed ; but mercurial, and acrid preparations, frequently used with that intention, ought to be avoided.

THE mesenteric glands are to be pre-

vented from inflaming, by supporting the action of the bowels, and preventing the formation of irritating matter, which, when absorbed, may swell these glands. Nourishing digestible diet, conjoined with rhubarb, and such remedies as act as tonics, at the same time that they keep the belly easy, are of use in this view; for the whole process of digestion is thus supported, and neither the feculent part of the food, nor the mucus of the intestines, become morbidly irritating.

THE other parts of the body are to be prevented from inflaming, by avoiding the usual causes of inflammation, and the action of whatever may injure the healthy condition of the part, or impede the natural action. Thus, the knee and ankle joint occasionally become affected with scrophulous inflammation after fa-

tigue, which injures the healthy condition of the parts.

BESIDES these precautions, which are necessary in those of an evidently scrophulous constitution, with regard to particular parts, it is likewise useful to preserve as vigorous and perfect a performance of the natural actions of the system, considered in the aggregate, as possible, by which we lessen the risk of any one part becoming diseased; for, whatever impedes or diminishes the performance of the natural and healthy action of a part (and, in this case, the whole body is to be considered as made up of parts), renders that part more susceptible of disease, or derangement of its actions. Cleanliness, pure air, warm and sufficient clothing, nourishing and digestible diet, invigorating exercise, and a due proportion of sleep, are therefore very powerful

preventatives of this species of inflammation, infomuch, that Dionis remarks, that seventy-five out of the hundred, who came to be touched by the king, were children of the poor peasants.

WHEN scrophulous inflammation does take place, then this invigorating plan is had recourse to as a cure, whilst, in truth, it is most useful as a prophylactic. The invigorating plan, which consists in the use of good diet, moderate exercise, sea bathing, &c. is indeed useful at this period, both because it tends to make the disease more easily overcome, and prevents other parts from being injured; but its utility is still greater as a prophylactic; and it does not appear to have any certain efficacy in promoting the resolution of scrophulous tumors, because these have naturally a strong disposition to advance slowly to suppuration, and

therefore are not readily affected by such means as tend simply to strengthen the system, or support its actions, because these do not change its peculiarity, or morbid modification, which existed, ab origine. But, when the tumors have proceeded the length of ulceration, then they have gone a step farther to a natural termination; and, although the means which strengthen the system cannot remove the scrophulous diathesis of the system, they may nevertheless accelerate the cure of a chronic tedious ulcer, which is slowly tending of itself to a termination.

THE remedies called *agentes similes* operate more directly on the scrophulous mode of action than those means which tend simply to strengthen the system, and may be usefully conjoined with them, because these agents tend to in-

duce an action different from the scrophulous one, at the same time that it possesses a certain coincidence with, or general resemblance to the natural or healthy action. Hence, the bark has been frequently found to be useful in the cure of scrophulous inflammation, but oftener of ulceration than tumefaction of the glands, for the reason mentioned above. It does not appear, however, to possess, by any means, that certain power of curing scrophulous affections which is attributed to it by Dr. Fothergill, and several other authors; nor are we to suppose that it shall infallibly cure scrophulous inflammation, or ulceration of parts, which, even when affected with simple inflammation, are very difficult to be cured. If we find it difficult to cure a simple inflammation, or ulceration of a tendon, cartilage, or bone, we must not be disappointed if even a specific remedy

~~ferophula~~ (granting such a one ever to be discovered) were to prove ineffectual in procuring a speedy restoration to health. The bark is likewise often ineffectual, because it is improperly administered. Given in small quantities, once or twice a-day, as is frequently done, it may prove a stomatic, and increase, like other tonic bitters, the power of the stomach, or the functions dependent on it; but we never can thus obtain the benefits of the specific action of the bark on the system. For this purpose, it must be given liberally, in as great doses, and as frequently repeated as can be done without producing continued sickness, or vomiting; and this must be continued regularly, late and early, not for days, but perhaps for weeks, at the same time that we prevent the action of such causes as would counteract the effects of the bark,

such as poor diet, bad air, confinement *, &c. Administered in this way, the bark may be rendered really useful, not only in the cure of scrophulous ulceration, but perhaps of many other diseases, whilst, in the common way of prescribing it, little or no benefit is derived from it.

THE muriated barytes has been recommended by Dr. Crawford †, and has of late been tried in France by M. Pinel ‡ and others. It does not appear to have any influence on tumid glands, or scrophulous tumors; but occasionally it is serviceable in scrophulous ulceration. It is, however, a medicine on which very

* See what has been said on this subject when treating of the cure of mortification.

† See the second volume of Medical Communications.

‡ Nosographie Philosophique, Vol. II. p. 238.

little dependence can be placed, and which fails in a great majority of instances*.

THE muriat of lime has been proposed by M. de Fourcroy ; it is given more liberally than the muriated barytes, but it is not more efficacious.

IRON by itself, or mixed with the fixed or volatile alkalis, has also been fre-

* When it is wished to prescribe it, the following is a very good formula :

R. Terræ Ponder. Salit. Chrysl. gr. ʒ.

Aq. Font.

Aq. Cassiæ utriusque uncias iii.

Syrupi Aurent. uncias ii.

Half an ounce of this may be given at first, twice or three times a-day, and gradually increased to such quantity as the stomach can bear without sickness.

quently employed, but with very little benefit *.

BURNT sponge, millipedes, vitriolated tartar, and many other trifling remedies, which were at one time in repute, are now deservedly neglected.

CICUTA has been greatly recommended by Dr. Fothergill and others †. It has very little effect on scrophulous tumors, or mild ulcers; but, when administered freely, it is sometimes of service in the irritable fiery ulcer, which was by the older writers called *struma maligna*.

* This metal was one of the principal ingredients in a remedy used by the Marischal de Rougeres, which consisted of filings of iron, sal ammoniac, salt of tartar, &c. *Journal de Med.* Tom. XL. p. 219.

† This is highly recommended by M. Marteau. *Journal de Med.* Tom. IV. p. 121.

MERCURY is another remedy, which at one time was much employed in this disease ; but few expect any benefit from it now. Gentle, or what has been called alterative courses, are, however, still recommended by many, with a view to satisfy the patient. Various preparations have been used. Some exhibited the corrosive sublimate, others the calomel, whilst the acetite of mercury, mixed with the powder of vipers and earthworm, with the rust of iron, was much employed on the continent *. Antimony has frequently been conjoined with this, but without much benefit.

NITROUS acid has, I believe, in some cases, a considerable power over scrophulous ulcers. From the trials which I

* *Pratique Moderne de Chirurgie*, par Ravaton, Tom. II. p. 33.

have made with it, I am inclined to attribute some effect to it in promoting the suppuration of scrophulous glands, or tumors, and in disposing ulcers to heal. Two or three drachms may be given daily, and continued for a fortnight, provided no bad effect be produced by it, such as pulmonic affections, &c. If, within this time, no melioration appear, we may give up this medicine.

THE hepatifed ammonia, in the dose of eight or ten drops, three times a-day, is sometimes useful in abating the pain, and changing the fiery appearance of the irritable ulcer, or struma maligna.

THE breathing of oxygene has been proposed as a cure for this species of inflammation; but it will be extremely difficult for the advocates of pneumatic

medicine to point out any authentic case in which it was really of benefit.

MUCH has been written concerning the local treatment of scrophulous tumors and ulcers ; but we are still very much in the dark with respect to any efficacious method. Formerly, the extirpation of the gland, or tumor, was advised by all ; but, more lately, doubts have been started concerning the propriety of the practice ; and, by most practitioners, it is now deemed unnecessary, if not dangerous.

IN the writings of the ancients, as well as many of the older writers on surgery in our own country, particularly in the works of Mr. Wiseman, this practice is freely inculcated ; and many cases are detailed in which the tumor was extirpated with success. Even in

the present day, no surgeon dreads the consequence of removing scrophulous joints, which, with regard to the present question, are to be considered in the same light with the glands.

It is supposed, that, by extirpating superficial tumors, the disease may be transferred to some of the more noble parts, and produce a more fatal complaint. But, if it be admitted that these tumors do not appear as necessary parts of scrophula, as the eruption of measles does of the rubeolous fever, but only as accidental circumstances, or fortuitous inflammations; rendered tedious and specific by the peculiarity of the constitution, this supposition will appear to be groundless. Even granting that scrophulous tumors did appear without any local exciting cause, and were, in every respect, similar to the eruption of exanthe-

matous fevers, it will not thence follow, that removing the local disease, after it has appeared, will make another part become diseased; unless it be said that scrophula depends upon a particular morbid humour, which, if denied an outlet in one place, must accumulate in another, which is a supposition I will not trouble myself to refute.

THE arguments, then, against the excision, are not to be drawn from its danger, but from the pain which it produces, and from the number of glands which must frequently be removed, and which might perhaps be resolved without coming to suppuration. It is likewise at times dangerous to extirpate these tumors, on account of their situation.

ON the other hand, when only one gland is affected, when it is superficial,

and has continued so long, in spite of our remedies, that there is little probability of resolving it, then, by extirpation, we procure a speedy cure, and avoid a tedious disagreeable ulcer, and unseemly cicatrix. The existence of the scrophulous inflammation, and particularly the ulceration, has a tendency to increase the scrophulous diathesis, or peculiar mode of action of the system. By cutting this short, therefore, we prevent that evil, and render the system less susceptible of the scrophulous inflammation, and the chance of communicating the disease to the progeny less.

It may also be said, that the wound, after the extirpation, might not heal readily; but the testimony of many writers, as well as what I have observed myself, convince me that this is not the case; for the readiness with which the skin

unites and heals, when not previously diseased, produces a speedy cure ; whereas, had the diseased gland remained below, and the specific inflammation been propagated to the skin, the ulceration must have been tedious.

UPON the whole, then, in determining on the propriety of extirpation, we must consider whether there be only one gland affected, or an incipient disease in a chain of glands ; and, if only one, whether there be a probability of this one suppurating ; and whether the advantage of an early removal of the affected part will not be counterbalanced by our losing the chance of restoring the part, and of preserving its functions and utility, as, for instance, in scrophulous inflammation of the breasts, testicle, joints, &c.

CAUSTICS have been proposed with

the same view as the incision ; but they are more tedious, produce extensive ulceration, greater pain, and are much less certain than the operation.

ISSUES are recommended as a general remedy, to act as a drain to the constitution, and to render the drying up of the ulcer safe. In this point of view, they appear to be altogether useless and unnecessary ; but, when employed as part of the local treatment, they are much more useful. The benefit arising from the use of issues, in the cure of scrophulous inflammation of the bones and joints, is now so fully established, by the practice of every surgeon, that it is useless to insist upon it here. In these cases, it is necessary to insert the issue, which is generally made with caustic, as directly over the affected part as possible ; and the size of this issue ought in general

to be correfpondent to the extent of the difeafe. There are two circumftances which greatly tend to render this practice efficacious, and which ought to be fully attended to: Firft, that the difeafe be allowed to gain as little ground as poffible before the infertion of the iffue, or that the iffue be inferted as early after the difeafe is obferved as the patient will permit. Second, that, during the continuance of the iffue, every circumftance be avoided which may counteract its ufe, fuch as much ufe of the joint, or other fpecies of irritation. In difeafes of the lower extremities, therefore, whatever exercife produces pain muft be carefully avoided; and, for the fame reafon, in difeafes of the fpine, proper contrivances to relieve the difeafed bone from prefure are neceffary to be conjoined with the iffue. It fometimes happens, that matter has either formed before the in-

fection of the peas, or some time afterward. In this case, it either comes to be discharged by an opening through the ulcerated surface, or issue, or it bursts at a more dependent part. In the first situation, no change of treatment is necessary; in the second, it is of service to insert a pea over the mouth of the aperture, which has a tendency to heal the part below, and prevent the formation of a tedious sinus. When the part becomes free from pain, and the soft parts have subsided in their swelling, and matter does not appear to be forming, or does not continue to be formed, if it had already been secreted, we may consider that the effect of the issue is now produced, and may begin gradually to diminish its size.

ISSUES, employed as a local remedy, have hitherto been chiefly used in dis-

eases of the bones and joints, and sometimes in scrophulous affections of the liver, or lungs; but it is reasonable to suppose that they ought likewise to be useful in the cure of enlargements of the glands, and other scrophulous tumors, if inserted in the immediate vicinity of the part. The only objection to their use is the cicatrix which they leave, and which, in certain situations, we would wish to avoid. When the tumor is thickly covered with the integuments, the issue may be made directly over it, by means of a blister, kept open by savine ointment*, or any other irritating preparation; but, when the tumor is

* This ointment may be prepared by macerating one part of recent savine leaves bruised, in four parts of ung. resinos.; it is then to be strained.

thinly covered, this will not succeed, as the inflammation consequent to the insertion of the issue will be communicated to the gland which is in immediate contact with the ulcerated surface. In this case, a small pea issue, or 'seton, may be inserted by the side of the tumor. In scrophulous inflammation of the glands of the neck, this remedy is not adviseable, owing to the scar which it leaves ; but, in affections of the mammæ, and some other parts, it may be useful.

BLISTERS, frequently repeated, are sometimes, in slighter cases of affections of the joints, used in place of issues.

PREPARATIONS of lead are frequently employed, and, where the tumor is painful, are often of service. When the lymphatic glands are inflamed, a saturnine

solution *, applied cold to the part, by means of a comprefs of linen, and frequently renewed, has a tendency to abate the pain and refolve the inflammation. Thefe folutions are fometimes employed warm, particularly in affections of the bones or joints ; but they do not, in thefe cafes, feem to have any confiderable fuperiority over fomentations with warm water.

CLOTHS dipped in cold water, fea water, or weak vegetable acids, have alfo been ufed, and have a tendency to abate pain, but are inferior to the faturnine folution.

* The following may be ufed for this purpofe :

R. Ceruff. Acetat. drachmam unam.

Aq. Rofar. uncias octo. Solve, dein cola.

ETHER, applied with a pencil to the part, is also sometimes of service.

SEA salt, mixed with bile, has been recommended, but has very little effect.

CAMPHORATED liniment is very frequently used, in which case the part is generally kept warm with flannel. It does not, however, appear to possess any very great power of dissolving these tumors; but the friction which is made use of with these sometimes hastens the removal of these tumors, and may be usefully alternated with the use of the saturnine lotion. A mixture of ether and linimentum opiatum may be employed for the same purpose.

HEMLOCK poultices were at one time in repute, but they have now lost their character.

By these means, even after a small quantity of matter is formed in the gland or tumor, we may discuss the tumor, or make it less; but, if the quantity of matter should continue to augment, we may consider resolution as out of the question. Our object must then be to bring the part to suppuration as quickly as possible; because we not only thus shorten a process which must be completed before the parts can be healed, but also render the ulcerative action more healthy, and easier induced; for the more quickly that the suppurative action is performed, the sooner does the ulcerative action take place, and the more vigorous is it, provided that no new cause render it unhealthy, as has formerly been mentioned.

This advice, however, must not be adopted without some exceptions, and must be chiefly confined to affections of

the glands and cellular substance, and ought not to be extended to the joints. In these cases, even although a small quantity of matter form, we ought still to endeavour to prevent general suppuration, and the bursting of an abscess; because this would, instead of accelerating the cure, as is frequently the effect in the other case, be attended with dangerous consequences; we must therefore rather continue the use of the issues, and endeavour to procure the absorption of what matter is already formed.

THE means employed for promoting suppuration were formerly poultices of lily roots, honey, &c. alternated with fomentations prepared from pomegranate seeds, and myrrh, and cypress leaves, or, occasionally, stimulating plasters; but now the common bread and milk poultice is ad-

vantageously substituted in place of these remedies. When the process is very tedious, electricity is useful along with the poultices.

WHEN these tumors have suppurated freely, and an abscess occupies the whole of the gland, it is useful to evacuate the matter by a small opening with a lancet, if there be no appearance of the abscess bursting quickly, and the sooner this is done the better. When this is done, a poultice should be applied until next day, the part is then to be wiped clean and dry, and a small bit of lint, spread with simple ointment, applied on the orifice. The surrounding red skin is to be dusted with powdered cerussa*, and then

* Keeping this skin dry has a tendency to prevent ulceration, and abate the redness and inflammation. The co-

covered with dry lint. A compress is to be laid over the whole, and moderate pressure employed. These applications are to be renewed every day, or twice a-day, according to the quantity of the discharge, and other circumstances; and, at each dressing, the parts may be bathed with spirit of wine. If this mode of dressing does not produce a cure, but the opening enlarges, and the surface ulcerates, we must then employ the dressings for a scrophulous sore.

WHEN, notwithstanding the use of issues, matter is formed in joints, or, when these fail to procure the absorption of what was formed before they were introduced, then one of two things must

ruffa may sometimes be advantageously mixed with an eighth part of powdered camphire, which promotes the removal of the superficial inflammation.

happen ; either the abscess must be punctured, or it must be allowed to burst of its own accord. In general, I believe, it is most advantageous to allow the abscess to burst, without any interference, except the continuance of the issue, or the establishment of such new ones as circumstances, particularly the situation of the pain, may point out. If, however, it were at any time deemed proper to evacuate the matter, this ought to be done with a small trocar, at different times, in the manner recommended by Mr. Abernethy for the cure of lumbar abscess. This is infinitely preferable to the barbarous practice which even some surgeons high in reputation advise and make use of, I mean the insertion of a seton through the abscess of the joint*.

* Bell on Ulcers, p. 471.

WHEN the scrophulous suppuration ends in the ulcerative action, the cure is generally tedious. It is even doubted by some how far it is safe to attempt a speedy termination to the ulcer, as it is supposed, that, in this case, the disease may be driven to some other part: And so fearful are they of this dreadful event, that they are careful, by issues and new artificial sores, to continue the discharge after the original ulcer is healed.

IF I have been right in my view of this disease, it will appear, that this reasoning is false, and that the practice is both useless and troublesome. Even those who propose and defend the practice, do so not upon the principles of reason and judgment, or from logical deductions from the theory which they give of the disease, but upon imaginary apprehensions. We find, for instance, Mr. Bell

saying, that, "till the disease is eradicated from the habit, all that should in general be done to the sores, is, to give as free and open vent to the matter as possible*." From this, we should, without doubt, expect, that he considered scrophula as dependent upon some peculiar humour which was to be expelled; but just before we are told, that this disease depends upon debility, particularly of the lymphatic system; a condition which it is not customary to talk of eradicating, or rooting out, or expelling. Upon the common principles of reasoning, Mr. Bell ought only to have forbid healing the sores, until the system was strengthened, otherwise the weakness would be driven or determined to some other part.

* Bell on Ulcers, p. 427.

MODERATE pressure, by means of adhesive plaster, conjoined with the application of cold water, is one of the best remedies for the mild scrophulous ulcer, when it is situated so, that this can be used. When it is not, then dusting the part thickly with cerussa, containing a sixth part of powdered alum, may be had recourse to. A piece of dry lint is next to be applied, and a compress bound down, with such pressure as can be used. It is sometimes useful to dip the compress in cold water, and renew it frequently.

THE ceratum e lapide calaminari forms a very good dressing for this sore, when it is intended to leave it to follow its own course.

As a stimulant, the unguentum resinorum, either alone, or mixed with red

precipitate, is often used ; but it seldom is of service, and often makes the sore irritable. If, however, the ulcer become very indolent, this, or the citrine ointment, properly diluted*, may be of service. The same may be said of the other common stimulating applications.

POULTICES made of bread and sea water have been recommended, but seem to possess little power of accelerating the cure.

SOLUTIONS of alum, of blue vitriol, corrosive sublimate †, of the nitrites of

* This application forms a very useful remedy for the scrophulous ulceration of the eyelids, which we so frequently meet with.

† This substance is the basis of a celebrated lotion for the face, which is sometimes useful in chronic pustules, which are frequently of a scrophulous nature. It promotes

copper, bismuth, and silver, are sometimes useful to wash the fore with.

THE recent leaves of the wood sorrel bruised, and applied raw to the fore, is sometimes useful. The same may be said of cloths dipped in lemon juice, or vinegar and water.

SATURNINE ointment is much employed by some, for abating heat and pain; but is inferior to compresses dipped in cold water.

SOMETIMES only the anterior part of a scrophulous tumor suppurates and ulcerates, and the deeper part of it remains

suppuration, the pustule then scabs, and, when this falls off, the part is sometimes found found below. It is made by dissolving corrosive sublimate in an emulsion of bitter almonds.

swelled and hard. In this case, the bottom is generally covered with a slough, which comes slowly away piecemeal, and is renewed for some time, until the tumor subsides, partly by sloughing, partly by absorption, and partly by the subsidence of the remaining inflammatory action. In this case, sprinkling the surface lightly with precipitate, or blue vitriol, is of service; and this may be alternated with the common warm poultice. When the surface becomes cleaner, dry lint forms a very good dressing; and this may be covered with a pledget of linen spread with cerate. Afterwards pressure is useful.

THE irritable overacting fore, or what has been called the *struma maligna*, is very difficult to manage, especially as it is frequently connected with a diseased state of the bones or tendons below.

THE hepatized ammonia, diluted in the manner formerly mentioned, or simple ointment, mixed with opium, are sometimes of use.

POULTICES of bitter almonds, beat up with a little olive oil into a fine pulp, and then warmed, occasionally relieve the pain, and make the ulcer more healthy.

CARROT poultices, or warm poultices made of bread and strong decoction of camomile flowers, are also sometimes of use.

CARBONIC acid gas, or carbonated hydrogen, are sometimes of temporary, rarely of permanent advantage.

ANODYNES, internally, are useful here, as in other painful sores.

IN all cases of scrophulous inflammation or ulceration, it is useful to exhibit, alongft with the proper local treatment, fuch internal medicines, and to attend to the constitution, in fuch refpects as may be deemed proper. Upon thefe points I have already made fome obfervations.

WHEN the local difeafe cannot be cured, and has induced the fcrophulous hectic; when this cannot be removed by the means commonly employed, and which have been mentioned in the difsertation on fimple inflammation, then the difeafed part muft be removed, if its fituation permit. This muft not, however, be rafhly done, but muft be delayed until we afcertain, that our remedies, general and local, (which muft be ufed with affiduity and care), are of no avail. It is not fufficient that the hectic continues, and that other appearances are al-

most stationary ; they ought to be augmenting, in order to justify amputation of a useful and important part ; because every practitioner must have observed the recoveries which take place, even after the hectic fever has made considerable progress. On the other hand, we must not allow the constitution to suffer too much, but must interfere, whenever we perceive that our labours are fruitless, and that the hectic is regularly and progressively increasing, and the strength sinking. When this is observed, the only chance for life is an operation ; and every day this is delayed adds to the risk attending it ; for there is a degree of injury, more than which the constitution cannot sustain, and which will prove fatal, even although the exciting cause be removed. To fix the proper period requires judgment in the surgeon ; but he may be enabled to do so, by attending

carefully to the state of all the symptoms; for whenever these continue progressively to become worse, and have reduced the patient already to a state of weakness, which cannot be much increased without danger, he may consider it as impossible to delay amputation longer with any hopes of success.

HAVING made these observations on this species of scrophula, I shall now conclude, by shortly mentioning the mode of treatment adopted by the older practitioners.

BLEEDING, which at first was made use of according to the custom of the day, was soon laid aside, on observing, that, in many cases, it was manifestly hurtful, and in every instance useless. But although the plan of general depletion was given up, yet local evacuations

were much insisted on; for they held it as absolutely requisite, that the brain should be purged of its pituita, (the redundancy of which produced the disease), by errhines, fomentations to the ears, and the application of issues and sinapisms to the head. The stomach was cleared of viscosities, by emetics of mustard or broom-feed; the bowels, by aloes; and the skin and kidneys, by sudorifics and diaphoretics.

HAVING thus procured a sufficient evacuation, the patient was desired to smell a pomum odoratum, composed of styrax, amber, myrrh, aloes, and many other ingredients; the vapours of which were supposed to get up to the anterior ventricles of the brain, and dry them. Hunger and thirst, by drying the juices, were decreed to be salutary. Every thing was rendered nauseous with me-

dicine. The bread was seasoned with anise and fœnugreek seeds, and the drink consisted of decoctions of guaiac and mastic wood, which last was “a friend to the brain and viscera*.” As a condiment to these medicated meals, Arnoldus de Villa Nova treated his patients to the burnt sponge, mixed with salt and pepper.

BUT these, and indeed all the medicines yielded by the materia medica, were considered as trifling, and of no avail, when compared to the miraculous power possessed by the king, who, with one touch of his hand, could banish this dreadful disorder, and dry up all the fores. So valuable did this royal prerogative appear in the eyes of many, that it became a national controversy, whether

* Laurent. de Strum. Nat. p. 67.

it belonged to the French or English ; whilst the Romish and Protestant churches reciprocally urged this prerogative of the king of the country where they were established, as a manifestation from heaven of the justice of their cause.

IN France, the king touched publicly, at four stated feasts in the year, preparing himself the day before by prayer and fasting ; then entering the apartment where the sick were arranged, the patients were individually presented by the chief physician to his majesty, who placed his hand upon their head, pronouncing these words, “ Le Roy te touch, et Dieu te guarit.” The sick then retire, and soon find a manifest amendment. “ In some the ulcers
“ dry up ; in others the swellings diminish ; and, wonderful to relate, in a
“ few days, more than 500 out of 1000
“ are perfectly cured !”—“ Hic hærant

“ philosophi, cœcutiunt medici, stupet
“ prophanum vulgus.”

UPON reading these accounts, we smile at the credulity of mankind ; but we pity them, when we learn, that near a thousand every year made weary and expensive pilgrimages, from very distant countries, to purchase this imaginary benefit,

DISSERTATION VI.

On the Cancerous Inflammation.

THE cancerous inflammation generally comes in slowly, in some glandular part, which becomes rather harder, and somewhat larger *, than it ought to be; but the pain, for the most part, at first is trifling. By degrees, both the hardness and swelling increase, and a pain, like the pricking of needles, is felt in the part. This pain, after some time, be-

* Although the affected gland becomes rather larger, yet the surrounding cellular substance sometimes diminishes, and the neighbouring glands are rather contracted, in which case the part seems to be shrunk.

comes more violent, darting through the whole of the gland, and leaving a sensation, as if the part had been rudely wrung or twisted. The tumor still remains moveable under the skin, which is of the natural colour; but when the disease has continued a little longer, a greater degree of inflammation takes place, and adhesions are formed betwixt the skin and the gland, or the gland and the parts below, at the same time that the pain becomes more continued. The skin now becomes puckered, or drawn inward, and of a dirty or leaden hue, which in time acquires more of the red, but is never of a bright colour. The veins are varicose, and the tumor is, with difficulty, moveable. When the skin becomes red, we may be able to discern a superficial fluctuation, which proceeds from part of the gland forming an

abscesses *. This at last bursts, and discharges a thin yellowish matter, which frequently oozes out in very considerable quantity; the orifice enlarges, and the fore penetrates, for a little way downward, pretty rapidly, and the edges become hard, and overlap a small part of the disk of the fore; but, soon after this, a fungus rises up; and although, in some places, the ulcer may become deeper, yet its chief progress is laterally.

THE cancerous ulcer increases more or less rapidly, and is soon attended with a burning pain; the surface is unequal, excavations appearing in some

* This abscess sometimes, though very rarely, occupies the whole of the gland, but oftener only a part of it; and if the gland be large, there are sometimes several abscesses, of considerable size, which form unconnectedly with each other, and burst separately.

parts, whilst in others a fungus rises up. The colour is brown, but glistening or fiery. The granulations very soft and indistinct. A thin ichor, of an abominable foetor, is discharged in great plenty, mixed with blood; whilst, in many parts, small pellicles, like lymphatic exudations, cover the sore. The surrounding skin is of a dark purple colour, and the adjacent parts very hard. The margins, which at first were overlapping the sore, in the course of a few days are uniformly elevated, and frequently retorted and unequal, as if they had been bitten by an animal; and over these the fungus frequently shoots or protrudes, so that the sore assumes the appearance of a cauliflower. This ulcer bleeds a little upon the slightest touch, so that at every dressing the cloths are generally bloody; but, at times, this bleeding is more alarming, proceeding from the bursting

of the diseased veins. These hemorrhages are, in some instances, very frequent, and reduce the patient to the greatest weakness. Sometimes they suddenly relieve the unhappy persons from all their woe.

SOME time after the abscess forms, and frequently before ulceration takes place, the neighbouring lymphatic glands swell, and become affected with a similar action, and follow the same course with the original sore; only in them the progress is generally more rapid.

AFTER ulceration takes place, sometimes before it, if the abscess be considerable, hectic fever takes place; the countenance becomes fallow and unhealthy; the pulse quickens, and becomes small and sharp; the strength fails; night

sweats come on, and colliquative diarrhoea hastens death.

THE parts in which cancer most frequently appears, are the under lip, the breasts of women, and the testicles of men: But there is no one part of the body in which it may not occur, although most frequently it is, in its original attacks, confined to secreting glands.

IN the breasts, parotid glands, and some other conglomerate glands, the disease begins as has been described; but on the skin, and in some other parts, the progress is somewhat different. The skin, particularly that of the face, is apt to have a small chronic pustule formed on it, by the inflammation of one of the sebaceous glands, which, by degrees, becomes harder, firmer, and

more elevated. Soon afterwards, it becomes rough, and of a warty appearance: It then ulcerates on the surface. This is covered with a scale or scab, which repeatedly falls off, and forms again upon the part, until it assume the appearance and character of the cancerous fore. But, more frequently, the disease is not allowed to follow this progress, the wart either being rubbed off accidentally, or removed by ignorant persons. The part then forms a superficial ulcer, which is slightly hollowed. It is of a glistening flabby appearance, and the margins are hard, tumid, and a little turned back: But after the disease has continued some time, the flabby appearance of the fore is converted into fungus. We may, therefore, from this, and other cases, conclude, that cancerous ulcers, which are formed without previous ab-

scabs, form fungus more slowly than those which are formed with them.

WHEN the lips become cancerous, there is generally first perceived an indurated lump, of greater or less bulk. The skin over it becomes tender, frets, and is covered with a scurf or scab, which gradually becomes elevated. Part falls occasionally off, but it is soon replaced. This by degrees extends itself over the prolabium, and, after some time, falls off entirely, leaving the part with all the common characters of the cancerous ulcer. The pain is burning.

WHEN the testicle becomes cancerous, it sometimes follows the common course of cancer in other glands, beginning with hardness and shooting pain in some part of the testicles or epididymis, which gradually forms an abscess, and ulcerates.

But, at other times, soon after the testicle becomes diseased, an effusion takes place within the tunica vaginalis. In this case, the disease of the testicle becomes complicated with hydrocele. It is distinguished by our feeling the hardness of the epididymis behind, or the hardness and inequality of the testicle, when the water is drawn off. It likewise, after some continuance, becomes more painful than a common case of hydrocele. If the testicle be not extirpated in due time, the cord becomes hard and swelled, and comes to ulcerate.

CANCER in the penis generally begins by a kind of warty tumor, and follows the course of cancer in the face. Sometimes the penis becomes just like a cauliflower, a large fungus extending from its ulcerated extremity.

THE uterus, in elderly women, is very frequently affected with cancer*. It begins with a feeling of weight and uneasiness in the lower part of the belly, and the natural discharge of the parts is increased, so that the disease passes for fluor albus. By examination, however, we may generally discover a hardness, and sometimes an inequality, about the os uteri, and may discover the uterus to be unequally enlarged. After some time, ulceration takes place, and matter, mixed with a bloody fluid, is discharged.

* It has been said, that genuine cancer is very rare in the uterus, and that the cases which pass for such are phagedenic. But although the uterus may be affected with serophulous inflammation, and phagedenic, as well as some other specific affections, yet it must be admitted, from an examination of cases, that the uterus is very frequently attacked with true cancer. Its substance is found enlarged, hard, and containing cancerous abscesses in different parts.

Occasionally, considerable hemorrhages take place, which are not unfrequently confounded with menorrhagia; but it may be distinguished by the continued discharge of a bloody sanies during the intervals of the hemorrhage; by the continual pain, and especially by our feeling the projection of the os uteri into the vagina, in some places hard, and in others soft, but rough, which shows ulceration. After some time, the glands about the vagina swell; and that canal, in many places, becomes considerably straitened. Hætic terminates the sufferings of the patient. On opening the body, we find the uterus generally, though not always, considerably enlarged, with abscess and ulcers in different parts of its substance. These ulcers, as well as those of the ovarium, and, so far as I know, every gland in the internal

cavities of the body, have a less tendency to fungate, than cancerous ulcer on the surface of the body.

WHEN inflammation attacks any organ, or part of the body, and leaves a chronic tumor, this may assume, as will afterwards be mentioned, a new inflammation, and may become affected with cancer; though it more frequently happens, that it assumes the pseudo-cancerous action. The symptoms and progress of cancer are much the same here as in the breast.

WHEN the eye becomes cancerous, it, unless the disease begins in one of the glands, such as the lachrymal, or those of Meibomius, is first of all affected with simple inflammation, which destroys the whole texture of the eye, and makes it of a different structure, rather resembling

a confused mass than a well organized body. The lucid cornea becomes opaque, and protrudes; the eye enlarges, is affected with a violent deep-seated pain, and at last bursts, generally on the apex: From this a fungous substance protrudes, which manifests all the symptoms of the cancerous ulcer, and in a short time arrives at a great size.

WHEN the nose becomes cancerous, the disease either begins in the outside, with a small tumor or wart, as in other parts of the face, or within, by a firm and somewhat painful polypous projection, which frets on the surface, and soon assumes the cancerous ulceration.

THE diagnosis of this disease is of the utmost importance; because if we mistake cancer for some other disease, we not only neglect the proper practice, but

frequently are led to prescribe remedies which do infinite harm. If, on the contrary, we mistake another disease for cancer, we neglect the necessary means of cure; and may even be led to extirpate a part which might be easily cured by gentler treatment.

CANCER may be confounded with scrophula, syphilis, and some other affections, which have received no particular name.

THERE is an affection* which begins like cancer, by a hard scirrhus, either of a gland, or still more frequently of one of the chronic tumors, which has been already mentioned as succeeding slow inflammation. This remains, for a

* To this specific affection, we may give the name of pseudo-cancer, for want of a better designation.

considerable time, hard, and free from pain, and there is no puckering of the skin over it. By degrees, some part of the surface becomes of a purple or livid colour, and ulcerates. This ulcer remains long superficial; the edges are hard and rounded; the discharge is thin; the surface is glossy, and no distinct granulations can be seen; the pain is slightly smarting, but not burning, and, instead of being fungous, the sore is slightly hollowed out below the level of the surrounding skin. By the continuance of this affection, the gland is apt to shrink and diminish in size; and generally where this takes place, the sore contracts and heals with a very puckered unequal cicatrix, having, in some places, a thick dark coloured scab covering it*.

* Of this nature was probably the ulcer mentioned by Mr. Wiseman, at least if we may judge from his very short

The neighbouring glands become affected; but they are soft, and rather resemble the spongoid inflammation than scirrhus hardness: But I have never had an opportunity of observing them proceed the length of ulceration. If the continuance of the sore be long, the constitution is affected, and the patient becomes hectic *. This kind of ulcer may be distinguished from cancer, if we attend to the absence of the fungous,

description: "It had eat deep into her left breast, and was
 "fixed to the ribs, but not with much pain. In progress
 "of time, the lips inverted, and united, as it were, and
 "lay covered with a crusty scab; the humour in the mean
 "while spent itself upon the nerves, &c. She lived long,
 "and, in her latter age, tolerably healthful." *Chirurg.
 Treatises*, Vol. I. p. 165.

* Extirpation is the only certain cure of this disease; and it is at all times the quickest and the best; but, by escharotics, we may sometimes procure cicatrization, at least if the gland have shrunk, and most of its substance been destroyed.

and peculiar appearance of the cancerous fore, and the want of the burning pain: But, before ulceration takes place, the two diseases may be confounded; because there are no certain characteristics of schirro-cancer.

THIS disease may attack the uterus, and is very apt to be confounded with cancer; nor is it easy to distinguish them, as the parts are unseen. There is never much enlargement. The ulcer is pretty smooth, and the margins circular, hard, and glabrous. The pain is not very considerable. The discharge is thin, copious, and of a yellowish colour, but seldom bloody, unless when the disease has continued very long:

THE spongoid inflammation has been considered as cancerous by those who have seen it; but the distinction betwixt

the two is sufficiently obvious: The one begins with a spongy elastic tumor, the other with a firm hard lump.

SCROPHULA may be mistaken for cancer, when it appears in one of the secretory glands, such as the breasts; at least as long as it remains without ulceration. But the tumor generally enlarges more rapidly than cancerous tumors, at least such as are not very painful. It is pretty soft and doughy, the pain is inconsiderable, and we may generally perceive the marks of a scrophulous habit. When ulceration takes place, the opening is, for some time, finous, and the matter discharged is curdy, and without fœtor. When the ulceration extends along the skin, it has not the fungous appearance of cancer, but the aspect of a scrophulous sore, and the gland below appears floughy. The pain

is not very considerable, and is not of the burning kind.

SCROPHULOUS inflammation may also attack the uterus, bladder, and any of the internal organs. The uterus and bladder become thickened, and contain abscesses in different parts, which point on the surface of these viscera. They are filled with a thick white cheesy-looking matter; and when they burst, they produce ulcers, with a foul surface, and having the margins notched, and lying for a considerable way over the disk of the fore.

THE distinction betwixt cancer and the venereal ulcer is so very striking, that it is scarcely possible for these diseases to be mistaken for each other, if the discriminating marks of each be attended to. The cancerous fore is always

dark coloured ; the surface fiery, yet of a fungous nature ; the discharge foul, and of an intolerable smell ; and the bottom and surrounding parts are hard and painful. If there be not an open running sore, the part is covered with a dry elevated scab, of a dark colour ; the skin around this is livid, and the neighbouring parts indurated. The base of the venereal sore is much softer, the discharge is of a different nature, and its aspect so peculiarly unlike the cancerous sore, that it is impossible to confound them *.

* It is to be regretted, that some who belong to our profession, reason upon the nature of ulcers, not from appearances and characteristic marks, but from the patients manner of life, or the idea which they have formed of the country whence they come. I remember two instances of people who came from the Hebrides, the one with a cancer of the lip, the other with a cancerous ulcer on the neck, both fungous, and possessing the burning pain, and every

THERE is another disease, which is very apt to be confounded with cancer, and which, at one period, resembles it very much. It begins with a small tumor, like a phlegmon, of a dull colour, and without much pain. This soon assumes a soft elastic feel, and bursts at the top; a bloody matter oozes out, the lips of the orifice become tumid, and the integuments ulcerate. The whole has a convex surface, the ulcerated part being most prominent; and the sloping margins are red and painful: The ulcer itself

character of cancer; but as the fibbers unluckily prevailed in that country, it was thought that the patients might have received this infection, and accordingly were, by a full consultation of surgeons, condemned to undergo a course of mercury. The lip was, in three days, greatly worse; the mercury was omitted, and the patient cured by an operation. The fore on the neck was instantly exasperated, and the patient, to use the words of Hildanus, “had her soul speedily sent to heaven.”

is foul, of a dark fungous appearance, and covered with thick offensive matter, with floughs in different parts ; the margins are hard, and lie, in a ferrated manner, over part of the fore : The pain is smarting. This sometimes spreads to a considerable extent, and cuts off the patient. At other times, by the use of mild dressings, good diet, and opium internally, the fungous surface floughs off by degrees, and shows a smooth red bottom, somewhat striated, and of a glossy appearance, which contracts, and scabs over, like the pseudo-cancer. The fungus, in this ulcer, never rises high ; it is generally slightly convex, being most prominent at the centre, and has never the retorted trumpet-like appearance of some cancers.

PHAGEDENA has sometimes, particularly on the yard, been confounded with

the cancerous fore. It has indeed the brown fiery colour, and smarting pain, possessed by the cancerous ulcer ; but it wants the fungous appearance, which the cancer very soon assumes. It spreads with greater rapidity, and is not surrounded by the same hardness. It begins likewise more suddenly, and without any previous hard tumor. We frequently hear of venereal buboes becoming cancerous ; but this seldom, if ever, happens ; and phagedena has, in this case, been confounded with cancer ; for that spreading fiery honey-comb-like ulcer, which venereal buboes sometimes turn into, is evidently of the phagedenic nature.

It was from allowing too great latitude to the description or definition of cancer, as well as from the numerous divisions admitted by the older writers, such

as mild, raging, and the like, that many diseases have come to be considered as cancerous, which are in their nature perhaps radically different from it.

THE mild cancer was said to begin slowly, with little pain, to continue long indolent, and to ulcerate slowly : The ulcer was not very painful, and frequently healed with a scab, or remained long stationary. This evidently was not a cancerous disease, but the one which I have described above. On cutting into this tumor, after extirpation, we find it to be of a firm texture, the interstices filled with a kind of oily matter, and no cavities with thickened sides in its substance.

THE malignant, or true cancer, begins with a hard scirrhus tumor, with frequent lancinating pain ; the skin soon adheres to the gland, and becomes flight-

ly puckered, and of a livid or leaden colour ; the veins are more or less varicose, although the tumor be not large ; and the nipple, when the disease is in the breast, is generally drawn inward. The integuments next become red, and a small opening forms, through which is discharged a bloody serous-looking matter, generally in very considerable quantities. The ulcer which succeeds this is, at first, superficial, affecting only that part of the integuments which covered the pointing of the glandular cyst or abscess. It is dark coloured and fiery, like phagedena ; but the edges are hard and ragged, and overlap irregularly, in different spots, small parts of the surface of the fore. In the course, however, of a few days, sometimes in a few hours, a fungus protrudes, and increases more or less rapidly, at the same time that the fore spreads laterally. This

fungus is very irregular, of a dark colour, and covered with floughy-looking pellicles. It generally sprouts out most toward the circumference, so that the fore has often the appearance of the mouth of a trumpet; or if the cavity in the middle be less, the fungus being less turned out, it resembles a cauliflower. This fungus uniformly projects over the margins, which are hard and red. The matter discharged is thin, bloody, and exceedingly foetid. On examining these glands, we find them, in the commencement, to be hard, like a substance intermediate betwixt gland and cartilage, and of an indistinct granulated structure. Soon afterwards, we perceive small abscesses or cavities in different parts, which are filled with a serous fluid, and the sides of which are hard and firm, like gristle. These enlarge gradually, and new ones form; so that were we to cut

the gland, we should find it containing a great number of these cavities *. Those which are nearest the surface of the gland, generally enlarge most; and sometimes only one gains any considerable size. Before this bursts, its sides become more opaque, and more blended with the rest of the gland, (which, where it surrounds the abscess, becomes softer, rather more vascular, and more porous or spongy than in other parts, and than it formerly was), unless it distend beyond the substance of the gland, pushing the skin outward. In this case, when it bursts, a great quantity of lymphatic matter is discharged, and the part collapses, and then exhibits the usual appear-

* These are sometimes very irregular in their shape, and have their sides very thin; so that, at first sight, they appear like cavities formed by the separation of the fibres of the part.

ances of the cancerous ulceration: But, more frequently, we find the abscess remain altogether in the gland, and only distend the skin a little at the apex, where it points. When the abscess bursts, more or less fluid is discharged, and immediately the inner surface begins, like the orifice, to ulcerate. A fungus is produced from the sides of the abscess, which fills up the cavity, and then protrudes from the orifice. We, therefore, find, that when the cancerous abscess bursts, the orifice at first assumes the appearance of a cancer which begins in the cutis*; but very soon a fungus pro-

* That is to say, the fore is rather flabby than fungous; for cancerous ulcers which begin superficially, and without previous abscess, remain a considerable time without forming fungus; but when an abscess bursts, and the skin ulcerates in consequence, then the fore is not superficial, but communicates with the abscess, which forms fungus quickly.

trudes, and the ulcer gradually becomes more convex, or more like a cauliflower.

THESE abscesses, with thick fides, are characteristic of cancer, and are never found wanting in a cancerous gland. When they are not present, we may be certain, that the tumor is a different kind of schirrus. But although these be always found in the glands, and form in them a certain mark of cancer, yet they are not necessary to the existence of that disease; for the cancerous ulcer, like common ulcers, may begin without previous abscess, as we observe in the cancer of the skin, which, in nine cases out of ten, begins with excrescences like warts.

By attending to these circumstances, we may generally form a pretty just diagnosis. At the same time, it must

be admitted, that, occasionally, cases do occur, in which it is impossible to deliver a decided opinion : Nor is it doubtful, that many ulcers are considered as cancerous, which are of a different nature, and some of which admit of a cure. In forming our judgment, we must be directed by the nature of the first symptoms, and the history of the scirrhus stage ; by the appearance and aspect of the fungus, and the other circumstances which have been already described.

CONCERNING the peculiar state of the parts in cancer, or the proximate cause, many opinions have prevailed ; but these, however they might differ in certain points, have almost unanimously agreed in admitting obstruction as the chief cause of this disease.

UNTIL lately, the melancholic humour was supposed to be the fluid which was obstructed, and accumulated, in consequence of which it fermented, and produced a burning ulcer; and whatever promoted the generation of this humour, was currently admitted as a remote cause of cancer. Women, says Ambrose Paré, are more subject to schirrus than men; “because their liver is warmer, and their spleen being weaker, is less able to purge the blood of choler.” Grief and chagrin, by promoting the formation of this fiery fluid, were accordingly considered by the celebrated Heister, as very apt to induce the “cancerous diathesis;” and he slyly adds, by way of corollary, that “old maids, and women who do not breed, are very subject to cancer in the breast *.”

* Heister's Institut. Vol. I. p. 229.

CONCERNING the particular changes which took place in the nature of this obstructed humour, many different opinions prevailed. Some thought it necessary, that the black bile should be charged with an acid, and that this produced ulceration, when “its sharp cutting points had surmounted and destroyed the volatile stegmatic and balsamic salts of the blood.” Others conjectured, that by an “adustion or over-concoction,” it grew sharp and burning: But Wiseman observes, that it is more probable that it becomes somewhat arsenical. It would, however, be useless to enumerate the different changes which this imaginary humour was supposed to undergo. It is sufficient to observe, that these were almost universally believed to depend upon the previous stagnation, in consequence of obstruction; and this leading point has uniformly been insisted

on by every succeeding author, whatever might have been his particular notion with regard to the nature of the obstructed fluid, whether bile, blood, or lymph; and even the anatomical structure of the part has been brought in support of the doctrine of obstruction. One of the latest writers*, though he talks nothing of “coagulating acids †,” yet insists fully on this mechanical cause as the origin of cancer; “for,” says he, “the
 “circulation in the glands being carried
 “on by a set of vessels much more minute than those with which other
 “parts of the body are supplied, (let
 “this be proved), obstruction will much
 “more readily and easily occur in them
 “than in other parts.”—“When the

* Bell on Ulcers, p. 319.

† Dioni's Chir., p. 248.

“ substance of a gland happens to be the
 “ part, a determination is made to this,
 “ being neither, as is found by experi-
 “ ence, so proper as the cellular sub-
 “ stance, for the formation of pus, nor,
 “ from its softness *, so susceptible of in-
 “ flammation, as a membrane; an in-
 “ dolent hard swelling, called a schir-
 “ rus, comes, merely by the *obstruction*
 “ and *distension* † of its different vessels,
 “ very naturally to be produced.”

* Does inflammation depend upon the hardness or soft-
 ness of the inflamed part?

† One should expect, that the distension of the vessels
 would diminish the cause of obstruction, or remove it alto-
 gether.

It is rather unlucky, that the advocates for obstruction
 have made it the cause of simple inflammation, scrophula,
 cancer, &c.; and therefore all these diseases ought to be
 nearly, if not entirely, similar in their nature, and to re-
 quire exactly the same means of cure.

SOME surgeons, perhaps from a desire of singularity, or from a defect of their organs of sight, declared, that they had detected little worms in the parts, which, eating it up, produced all the disagreeable symptoms of cancer; and that to their introduction the disease was owing. The cure which they confidently proposed, was applying a piece of cold veal to the part, which would tempt the animals to quit their devastation. Others, perhaps originally from ridicule, though latterly in sober earnest, told their readers, that there were no worms, but a little wolf in the part, which might be made occasionally to show its head, by holding a piece of meat before the ulcer.

STRANGE as this doctrine of living creatures producing cancer may appear, it is nevertheless adopted by a late very

ingenious writer. When hydatids find their way into "a solid substance," the consequence, in his opinion, will be cancer; and the success of an operation will, he conjectures, depend, in a great measure, upon these animals being confined in a common cyst, for then they may be all removed; whereas, if they be unconnected, some of the smaller ones may be allowed to remain*. From the surface of the cyst, which contains the animal, a fungus shoots out, and thus acts as a barrier between it and the skin; or, if the animal have been in the stomach, it separates it from the coats of that viscus, "preventing suppuration in the one instance, and absorption in the other†." This suppuration, "and dis-

* Adam's Observations on Morbid Persons, p. 184.

† Idem, p. 185.

“ position to fungate before the skin is
 “ broken,” if I understand him, is pro-
 duced by the death of the animal; for,
 says he, “ if hydatids possess the princi-
 “ ple of vitality during their transparent
 “ state, and their opacity is the effect of
 “ the loss of that principle, would they
 “ not, in the latter stage, stimulate the
 “ part in which they are situated to sup-
 “ puration, as we find the case with the
 “ Guinea worm when dead * ?” Con-
 cerning the manner in which these ani-
 mals produce the symptoms of cancer,
 we are told, that “ this enlargement of a
 “ foreign body, in a solid substance, and
 “ so extremely sensible as the breast, can-
 “ not but be attended with intense pain,
 “ and frequent inflammation †.” A doc-

* Adam's Observations on Morbid Persons, p. 184.

† Idem, p. 161.

trine not far removed from that taught in the humoural schools, which maintained, that the coagulation and inspissation of the fluids distended the follicles of the glands, producing many cavities, and much pain *.

THAT hydatids *may* be formed on a cancerous gland, I shall not dispute; but that they are generally to be met with, or are in any respect essential to the disease, I cannot admit. In all the cancerous breasts, testicles, and tumors, which I have examined, I never saw any thing which could be considered distinctly as a hydatid; so that I suspect, that under this name have been described the small cancerous abscesses, with thick cartilaginous sides, which we so universally meet with in schirro-cancerous glands. We

* Van Swieten's Commentaries, article Cancer.

likewise find cancer take place in circumstances in which no hydatids can be found. Thus, for instance, a cancerous wart being knocked off the face, a cancerous ulcer is produced ; but no hydatid is to be found at the base of the wart to produce this.

WHEN cancer has continued some time, it was believed that the matter was absorbed, taken into the blood, and that all the humours were speedily assimilated ; and it was by this absorption and assimilation that they explained the fatal and rapid progress of relapses, after an apparent cure had been obtained. That matter is absorbed, is an undeniable fact ; but the only effect which is produced by this, is on the lymphatic glands *, which intervene betwixt the fore

* Mr. Hunter supposes, that the mere absorption of scirrhus substance before matter be formed, will affect the

and the heart; for, beyond these, the matter does not pass qua virus, but is changed in its nature and properties, as is the case with every other part or production of the animal, which is absorbed and formed into part of the blood. Neither cancerous matter, nor variolous matter, nor syphilitic matter, ever are formed in the blood, or ever can enter into it, unless by means of an wounded vessel. This point I shall consider more fully, when I come to treat of the venereal inflammation. Here I shall only observe, that were the reverse true, then the contagious matter must pass through

glands; but it is difficult to ascertain the certainty of this, as small abscesses are formed very early. I have formerly mentioned, that every part of the animal is changed in its nature, at the moment of being absorbed: If so, scirrhous substances lose all specific property, and cannot affect the glands. Pus, again, being a foreign matter, is absorbed unchanged, and continues so until it reaches the glands.

every gland, and every portion of the human form, in as much as the blood circulates in every point; and, therefore, every spot should become diseased, and every part, in the same circumstances, should become diseased at the same moment *. Disease is not spread in the living system mechanically, by the absorption of matter; which is conveyed over the whole body, but by the sympathetic connection of parts, which has been already explained, and which will afterwards be farther illustrated. It is

* It may be said, that different parts have different susceptibilities of assuming the morbid condition; that the bones are longer of becoming affected than the soft parts, &c. Admit this, and still it must be explained, why every part of a similar structure, &c. should not be affected at the same moment. All the glands should become diseased at once; all the bones should inflame at the same time; and, instead of finding one or two organs affected, in consequence of the previous existence of a local disease, we should find the whole system rapidly becoming diseased.

in consequence of this, that a distant part shall become diseased, and yet all the rest remain healthy; and even where every part becomes affected, and a general disease is suddenly produced from a local sore, as, for instance, in small-pox, there is no diffusion of matter, nor is it ever conveyed beyond the lymphatic glands.

IN this particular complaint, the consequence of sympathetic action, or the propagation of action, is sometimes the induction of the same disease in other parts; but most commonly the effect is the establishment of the hectic, or diseased formative action; for an explanation of which I refer to the dissertation on simple inflammation.

By examination, we find, that, in many instances, cancer is evidently pro-

duced by the same causes which are capable of producing simple inflammation ; and, in every instance, I apprehend, that although the causes may be obscure, yet they are exactly of the same nature. It is, however, a general opinion, that this disease arises frequently from some unknown and mysterious cause which we cannot detect, and which, therefore, has been resolved into some constitutional taint, or cancerous ferment. But, so far as we know, the constitution is perfectly healthy in the commencement of this disease ; nor is there the smallest proof that it resembles scrophula, in depending upon any peculiarity of constitution, before the causes operate.

BLOWS, bruises, and other exciting causes of inflammation; are apt to produce cancer ; but, in many instances, we can detect no evident local cause

acting directly on the part. In the breast, for instance, we frequently perceive cancer commence without the interference of any topical agent. In these cases, however, we may uniformly detect an irregularity or disappearance of the menstrual secretion. It was formerly observed, that the uterus and mammae exhibited very powerfully the sympathy of equilibrium; and it is upon this doctrine, which it is unnecessary further to illustrate, that we are to explain the affection of the breast, which so frequently takes place in consequence of the cessation of the menses; for when the sensitive state of the uterus is lost, the sympathy of the mammae is preternaturally increased, and a species of slow inflammation is induced. It is upon this principle only that we can explain why cancers are so frequent at the cessation of

the menfes *. It is ridiculous to suppose that this discharge acts as a drain to the constitution, and carries off impurities, which would otherwise collect elsewhere, and produce local diseases. The breast is almost the only organ which becomes thus affected without any agent acting directly upon the part alone ; for, in most other instances, we may detect the operation of such causes at least as tend to induce simple affections of the same part ; but, in both instances, the modus ope-

* It was supposed, that when the menfes were obstructed, the impurities were sent by communicating vessels to the breast, where they lodged, and produced cancer. Vide Vesalii Opera, p. 1092. Fabricius de Tum. p. 118.

Le Dran observes, that when schirrus, from any cause, takes place in the breast, before the cessation of the menfes, it uniformly becomes more painful when any irregularity of that discharge occurs. Vide Memoires de l'Acad. de Chirurg. Tom. III. p. 22.

randi of the cause is alike, only circumstances are somewhat varied.

WHEN the inflammatory action is slowly induced, whether by a bruise, or any other cause, acting directly on the part, or by sympathetic union with another part, we find, that the tumor which is consequent to this, seldom manifests a disposition to remove quickly, or assume the healing process. The part neither performs any distinct and acute inflammatory action, nor does it resume its natural condition and appearance, but remains in a new state, different from either, which I will call the state of simple schirrus *. If this state, which may follow the application of the common exciting causes of inflammation in any

* Warts are, with regard to their power of acting, to be considered in the same light with simple schirri.

part, take place in cellular substance, or similar parts, which are possessed of no glandular structure, then a chronic tumor is produced, which is either slowly diminished by absorption, or at last unable to carry on its actions in perfection, being, in some respect, insulated, and deprived of the support of the surrounding parts * ; a diseased action, or morbid performance of its actions, takes place ; a slow inflammatory condition is produced †, and at last ulceration succeeds. This, in general, forms pseudo-cancer, provided that the constitution be simple, that is to say, healthy : But if it take place in a scrophulous habit, the tumor is apt to become

* See the Note to p. 354.

† The simple schirrus now assumes that specific mode of inflammatory action which it is to continue, and may now be called the scrophulous or cancerous inflamed schirrus.

scrophulous, having its morbid actions modified by the morbid condition of the system. If this event take place in a lymphatic gland, instead of the cellular substance, then the tumor is still more apt to become affected with scrophulous inflammation, in consequence of even a very trifling scrophulous modification of the habit. If this state be produced in a secretory gland, the affection is somewhat different from that in simple parts, or those which do not secrete; because the inflammatory action becomes somewhat modified by the natural secreting action of the part; and, in this point of view, the gland may be considered as possessing a specific constitution, although the general constitution be simple; for, naturally possessing a peculiar mode of action, it follows, that new actions induced in such a part, ought to be performed in a different manner from the

same actions in parts which naturally do not possess this peculiarity, and that the actions ought to be specifically different. When these parts are attacked with acute simple inflammation, it differs from inflammation in the cellular substance in certain circumstances, and particularly in being much more tedious; but when the nature of the part is still farther altered by the accession of a slow inflammatory action, which operates in the manner above described, then it assumes a specific inflammation, which ends in ulceration. The exact, or specific nature, of this, is various; and the state, which we call cancerous, is probably only one of the varieties of this morbid inflammatory action; and whether the part shall assume this variety, or some other variation, as, for instance, pseudo-cancer, depends probably upon local circumstances, which we cannot as yet detect or explain.

If, however, the constitution possess any specific mode of action, the tumor generally assumes nearly the same mode ; and, therefore, in scrophulous people, these tumors more frequently become affected with scrophulous inflammation, than with cancer : At the same time, if the previous change on the gland, induced by the slow inflammatory condition, have been great, the scrophulous condition, which it possesses in common with the rest of the system, becomes modified in it, in the same way as the simple condition, in healthy habits, is modified by the new or scirrhus state of the gland ; and, therefore, the scrophulous inflammation is sometimes different, and the ulceration more fungous than in other parts.

THE causes, then, of simple inflammation, when they operate slowly, or leave

the part in a state neither inflamed nor healthy, give rise to a chronic enlargement, and change of nature, which I have called simple schirrus*. This performs, like every other part, certain actions, which are intended for its own support, and which must make a part of the general action of the system, or be in unison with the rest of the body. But as its actions are different in nature from those which any part of the body natur-

* Schirrus has generally been enumerated as one of the terminations of inflammation; but it cannot, properly speaking, be considered as such. There are only two kinds of termination, one in death, as, for instance, gangrene; the other in recovery, which is accomplished either directly by resolution, or indirectly by suppuration. Schirrus is not produced by a perfect and complete cessation of inflammation, but by a continuance of a low degree of inflammation, which renders the state of tumefaction which attends it natural to the part, before it goes off. This state, then, is not a termination of inflammation, but a consequence of its continuance.

ally ought to perform, and as originally this organ, (which, from the changes induced on it, is to be considered as new and extraneous), formed no part of the human frame, there is not that connection betwixt it and the rest of the system, which is necessary for its support. It, therefore, does not derive the same aid and support from the neighbouring parts which natural organs do, (for no part, or individual organ, can exist and support itself singly, and independent of the rest), and, accordingly, must soon come to suffer. It is unable to perform its necessary actions in perfection; they become morbid, and of an inflammatory nature. The tumor is now an inflamed schirrus; and this inflammation either assumes a modification, from the specific nature of the constitution, or from the peculiar nature of the tumor itself, which, as has been explained, is different

from the healthy state of the tumid part. We have, therefore, the scrophulous, the cancerous, the pseudo-cancerous inflamed schirrus; and the symptoms of these different kinds of schirri, and the appearance of the ulceration, will, *cæteris paribus*, be modified by the nature of the part affected. The same disease, therefore, exhibits slight variations in different organs, as has been described in the history of cancer, and might, therefore, were we inclined to multiply distinctions, be considered as so many different diseases.

THIS disease is most apt to take place in elderly people, (in so much that some consider it as peculiar to old age); because in them, parts sustain injury of their actions worst, or are less able to recover from them. Hence, two consequences follow: First, Simple schirrus is

more easily produced, resolution of inflammation being more difficult, especially in parts which are, at all times, rather tedious in their recovery, when inflamed: Second, The simple schirrus is more apt to inflame, or have, what may be called, *its* necessary actions impeded and deranged. It must, however, be remembered, that there is no age whatever exempted from this disease: I have seen it distinctly marked, and attended with a fatal event, in children of five years old *.

It is a controverted point, how far it is possible to produce cancer by inocula-

* I have known two cases of this kind; in both the eye was affected. One boy had his eye extirpated; but a small part being left by the surgeon at the angle, the disease returned, and proved fatal. In another, the disease was in its incipient stage; but the relations would not submit to an operation.

tion ; some maintaining, that the application of cancerous matter to a sound part will induce the disease ; others, that it is altogether harmless. Analogical evidence is certainly in favour of the first opinion ; because the majority of specific ulcers may be inoculated, and have been so by accident. But, at the same time, it must be admitted, that there are few well established cases of this particular point. We find, however, that, like the venereal matter, the cancerous, when absorbed, induces a disease in the lymphatic glands, of a cancerous nature. We would, therefore, be led to conclude, that if the matter be capable of inducing cancer by absorption, in a distant part, it ought likewise to be capable of producing the same disease in another person by inoculation. The same be said of the spongioid inflammation, &c.

FROM these observations, it will, I presume, appear, first, That when a part is incapable of performing the actions necessary for its preservation in a state of health, it generally slowly assumes the inflammatory state, which goes on to ulceration ; but the part being unable to support its natural action, can much less perform the actions necessary for restoration from this morbid condition, which, therefore, continues permanently and progressively increasing ; that the nature of this unhealthy action is not always the same, but admits of variations dependent upon certain conditions in the previous state of the part affected, with regard to which we are greatly in the dark. Cancer, pseudo-cancer, spongoid inflammation, &c. are some of these variations.

SECONDLY, Cancer, and all these va-

riations, are originally, in the strictest sense of the word, local diseases, depending neither upon any constitutional affection, nor the presence of any general cause. They do, however, in progress of time, affect not only parts in their vicinity, but also the system in general, producing, by means of sympathetic actions, specific hectic affections, as has been formerly explained, when treating of simple hectic. They likewise spread over more surface in the part at first affected, and produce the same morbid actions without variation, by means of the *sympathia consociationis serpens*. They also induce a similar disease in the nearest lymphatic glands, by absorption.

Of the Prevention and Treatment of Cancer.

FROM what has been said, it will appear, that cancer is to be prevented by using the most vigorous means for the removal of simple schirri, upon their first appearance. Of these, local bleeding is the most powerful, and ought to be freely employed. Next to this, an issue in the neighbourhood of the part ought to be most depended on ; and these two remedies must be employed early, and continued carefully. Whenever a simple schirrus arises, we ought to be on our guard, in whatever situation it may be placed ; but, if it occupy a secretory gland, we require to be doubly vigilant. This, at first, is not painful, at least the patient only complains of slight uneasi-

ness shooting for a moment through it. This circumstance too frequently prevents the patient from attending to it; for where there is no inconvenience sustained, there is little inducement to apply for assistance; and, not unfrequently, an ill-judged modesty contributes to this delay. But, although the patient may be little concerned at this period, yet the surgeon must not observe the same indolence. Aware of the dangerous consequences of allowing the tumor to follow its natural course, he will apply leeches once and again, and insert an issue as near the part as possible. The remedies called discutient have been much recommended at this stage; such as sal ammoniac dissolved in vinegar; and this is sometimes useful, but perhaps not more so than the vegetable acid by itself: When it does not interfere with bleeding, it may be usefully employed. By

means of these remedies, we may frequently remove recent tumors, which depend merely upon the enlargement of an organ, without any other considerable change of structure. But it is more difficult to remove tumors which are not produced by the mere enlargement of a part, but depend upon a change of structure, or the formation of new parts; as, for instance, warts, polypi, &c. The small indolent tumors, however, which take place in the cellular substance, may sometimes be removed by the early use of these remedies.

WHEN these means have either been neglected, or fail when employed, and the schirrus begins to inflame, there is little hope of performing a cure by either local or general applications; and extirpation affords the only chance of recovery which can be depended on. But,

as it is not always at the very first certain that the schirrus has assumed the cancerous inflammation, and is not curable, the operation ought not to be advised in the first instance, or upon the very first appearance of the pain, or symptoms of commencing inflammation; on the contrary, we ought to have recourse to local bleeding, the use of issues, mild diet, and perhaps the use of cicuta; but if these remedies do not evidently arrest the progress of the disease, diminish the pain very considerably, and make the tumor perceptibly softer and less, in the course of a few weeks, we ought, without hesitation, to advise the removal of the part, which I shall presently consider.

THE local bleeding is to be performed with leeches, which are preferable to the scarificator, being attended with less ir-

ritation. Three leeches may be applied to the part every second day, as has been proposed by some writers on this disease. This practice must be continued for a considerable time ; and, during the intervals of bleeding, cloths dipped in cold water ought to be applied. If, in the course of a month, the tumor becomes freer from pain, and softer, we may apply the leeches only every third day, and continue this for another month, and afterwards either persist for some time longer in the same way, or repeat the application at longer intervals, according to circumstances. But if, on the contrary, the tumor become rather larger, and more painful, as sometimes happens, when the disease is farther advanced before we begin, and if the constitution suffer by the repeated evacuations, we must desist.

ISSUES may be formed, either by introducing a small seton superficially on each side of the tumor, or by blistering the part, and afterwards keeping it open with savine ointment. The latter of these methods is not admissible, when the disease has proceeded so far as to make the skin adhere to the gland, and become puckered; indeed, at this period, issues formed in any way ought never to be advised, unless the operation will not be consented to; because the chance of their producing a cure is very little, and we lose time by trusting to them.

MILD and spare diet has a very considerable influence over this disease, in almost every period, and contributes greatly to retard its progress. It ought therefore rigidly to be conjoined with the bleeding and issues, in the commencement of the disease, and will tend to

abate the action in the part, and promote its resolution. The diet ought to consist of stewed apples, or prunes, panada, and weak broths, with bread. It has even been proposed to prohibit almost entirely the use of solid food, and to allow the patient nothing but water for the course of several weeks. This was much recommended by M. Pouteau, who was led to make trial of it by the success attending the empirical practice of an ecclesiastic. It was afterwards enforced by Callison; and more lately abstinence has been favourably mentioned by Mr. Pearson, who relates some cases of cancer, or appearance of cancer, in the uterus, in which it produced very astonishing effects, abating the pain, diminishing the swelling, and re-establishing the general health.

By means of these remedies, we may sometimes succeed in removing by de-

grees a schirrus, after it has evidently begun to inflame, and threatens to become cancerous. But if, notwithstanding these remedies, the disease evidently continues to increase, or if, in the course of a few weeks, they do not produce an evident effect, we cannot with propriety delay the operation, which is the most certain method of cure, and one which succeeds in a majority of instances, if early and properly performed; nor ought any other method of treatment to be proposed in opposition to it, unless in the very commencement of the inflammatory state; and it is in this period only that I propose the above treatment, unless the patient absolutely decline the operation; for when the skin becomes puckered, and the inflammation has continued clearly for a considerable time, without any measures being taken to remove it, the success of any local or general remedy is exceeding-

ly precarious, and delay is not only useless, but frequently dangerous. It has, however, been doubted by some very ingenious surgeons, whether it was proper to advise the operation at any period, they believing, from the number of relapses, that it was almost useless; whilst others have been against the early performance of it, on the principle, that some parts already diseased might not have, at this period, become evidently affected; and, therefore, might inadvertently be allowed to remain.

THE late Dr. Monro*, from observing, that almost all the patients on whom, to his knowledge, the operation had been performed, relapsed, is inclined rather to adopt the palliative treatment, than the

* Med. Essays, Vol. V. p. 422.

extirpation. He takes for granted, that, in the generality of cases, cancer depends upon some internal cause. In these cases, he is decidedly averse from the operation, and advises it only when the disease occurs owing to blows or hurts in young and healthy people. But, in considering this opinion, we are to remember, that a great many of these cases may be supposed to have been very far advanced before any operation was performed; and likewise, that the method of operating, in that period, was extremely unfavourable to a cure, the wound being kept open, and suppurations and ulceration rather encouraged than avoided. More lately, Mr. Hill of Dumfries has published an account of cases, where the operation was performed in more favourable circumstances, and of these not a seventh part suffered a relapse. The present Dr. Monro gives even a more favourable account; for, if I am

not much mistaken, he observes, in his lectures, that not one-third of the cases in which he had been consulted, had relapsed. From my own observations, I cannot judge very accurately; because many of those on whom I have operated, came from parts at a great distance, and with which I had no intercourse; consequently, I could not hear of the result of those cases: But of the cases, the sequel of which I have heard, not a fifth part have relapsed; and in those the operation was performed at a period when the axillary glands had become diseased, but were not evidently so; and, therefore, were not extirpated; for, in all of them, the disease reappeared in the lymphatic glands. But, even from this relapse, the patients may be cured by a second operation. We may, therefore, conclude, that, if the operation be early performed, the majority will recover:

and even although the disease should afterwards appear in the lymphatic glands, the patient is not incurable ; for we frequently succeed in extirpating cancers, when the glands are very much affected before we are applied to. I have operated in cases where I was obliged to dissect the glands, from the axillary artery alongst almost all its course in the armpit, and which reached well nigh to the articulation.

WITH regard to the argument against the early extirpation, founded upon the possibility of the disease having affected parts in the vicinity, which have not yet evidently become diseased *, I may observe, that, upon the same principle, we ought not to operate until the axil-

* Pract. Obs. on Cancerous Complaints, by Mr. Pearson, p. 50.

lary glands swell; because they may be affected, although they be not yet evidently enlarged; and, therefore, may give rise to a relapse. If we only remove the single gland in the breast, which is hard, we doubtless run a great hazard of a relapse; but, I apprehend, that this ought never to be done, and that the whole of the glandular part of the breast ought to be removed at once; because we thus more certainly prevent a return of the disease, which we cannot otherwise, with any certainty, do. The additional pain is very inconsiderable; and we can derive very little advantage or benefit from leaving a part of the mamma behind.

THE caustic has been proposed, instead of the knife, for the removal of cancer or scirrhus; but it is much less certain, more tedious, and even more painful. Instead, therefore, of recommending it-

self to timorous patients, this practice is still more to be dreaded than the excision, which is more terrible in anticipation, than in the actual performance of it.

THE caustic most commonly, and indeed almost universally, employed, is arsenic, mixed with various inert substances, and formed into a paste or ointment*. This has been applied in two ways; first, directly upon the skin, covering the schirrus, and then, after this is destroyed, upon the schirrus itself, destroying it layer by layer; second, directly upon the skin, and then, instead of applying it to the gland, to put it round it on the surround-

* Arsenic mixed with sulphur, and powdered crow-foot, and made into a paste with yolk of egg, forms Plunket's composition. Mixed with forty times its weight of powder of belladonna, it forms an application which some time ago was much in repute in North America.

ing cellular substance, and by gradually destroying this round the gland, to turn out the schirrus entire. This was the practice of Mr. Guy, who gained considerable credit by his success; and, since his time, it has occasionally been performed with success by some others*.

THIS method, however, is liable to several material objections: It is uncertain in its issue; for, if the gland be not completely removed, the disease makes a rapid progress afterwards. It frequently happens, that some smaller glands around the large one are affected; and

* Juslamond on Cancers, p. 141. This gentleman relates a case, in which, by destroying the skin with lunar caustic, and then applying arsenic, he removed the gland. The arsenic, in this instance, was fused with antimony, in proportion of two parts of the first to one of the last. This was powdered and mixed with equal parts of powdered opium, and made into a liniment with yolk of egg.

these are greatly irritated by the action of the caustic in their vicinity: It is more painful than the operation with the knife; and the subsequent process of healing, even granting the method to succeed in removing the diseased part, is much more tedious than when the incision is employed, and union by the first intention procured.

ON all these accounts, but most especially on account of its uncertainty, the method of cure by caustic can never be sanctioned by any modern surgeon, much less can it ever be held up in opposition to extirpation by the knife.

THIS practice, which has had many advocates for its employment in schirrus, has been equally recommended in cases of cancerous ulcers; but here it is still less admissible; for the extent of diseased

parts is generally greater; the neighbouring parts are affected to a greater distance; indurated and diseased lymphatics frequently extend from the breast to glands in the axilla. It is, therefore, next to impossible to turn out the morbid parts, as "nuclei," by destroying the substance around them; and it is equally improbable that we shall, unless the sore be very small, and the caustic very strong, be able to make it slough off in successive layers. Farther we can propose no advantage to ourselves, from employing caustic in preference to the scalpel; because in every instance in which we can destroy the parts by means of this, we can equally safely, infinitely more speedily, and with much less pain, remove the parts with the knife. There is only one case in which caustic is useful, and that is merely as an appendage to the operation of excision.

When we dissect off ulcers from parts where, owing to the want of cellular substance, the skin is not lax enough to be brought over the parts, or when so much of this has been removed, that, although lax, it cannot be made to cover it, we may find it of service to rub the bottom of the wound with lunar caustic, as we thus stop the oozing of blood, and destroy any little portions of the diseased part which we may have left.

FOR the purpose of destroying cancerous ulcers, many caustics and escharotics have been proposed, such as the arsenic, corrosive sublimate, lunar caustic, &c. Of these no one seems to possess a preference over the rest, if we consider only their local action; but some of them, especially arsenic, are apt to produce bad

effects, and that very unexpectedly, on the constitution.

AFTER making these remarks upon the method of cure, I shall conclude with some observations on different remedies, which have been proposed as palliatives, where the operation is not admissible, or will not be consented to, and which have even been supposed capable of changing the mode of acting altogether, and producing of themselves a cure. These remedies I shall divide into general and topical.

OF the general remedies, those which have been most frequently, and with the greatest confidence, employed, are narcotics, such as the cicuta, opium, nightshade, &c.

THE cicuta is a medicine which was,

at one time, in very high repute, and owed its reputation to the experimenting talent of Storck, who has written several libelli on this plant. According to him, cicuta possesses very evident powers over cancer, and has cured a great many cases; but, in less prejudiced hands, it has been much less successful; and even in many of the instances adduced by Baron Storck of its utility, it is by no means proved, that the disease was really cancer. The present opinion of the public seems to be very unfavourable with regard to this medicine; and from the numerous instances in which it has failed, this opinion seems to be very just. Alongst with the proper local applications which have been formerly noticed, it sometimes is of service in removing simple schirri*; but I have never

* If I am not mistaken, the present Dr. Monro mentions, in his lectures, one instance, in which a small schir-

found it of any service when the fchirrus had assumed the cancerous inflammation, much less when it has proceeded the length of ulceration. In the last case, I have never found it even produce the temporary melioration which many talk of.

THE common way of exhibiting the hemlock, is to begin with small doses, and increase these gradually, until they produce vertigo: For this purpose, we may begin with two grains of the extract, or four of the powder, recently prepared, twice or thrice a-day, and gradually increase the quantity*. In this way,

rus appeared to be removed by it; but whether this was simple or cancerous, I do not know.

* As different parcels of this medicine may not be of the same strength, it is prudent, when we begin a new sup-

we find that some patients have come to take an ounce of the extract daily; but if a much less quantity than this produce no good effect, we may consider it as useless to continue a remedy, which, in this dose, must injure the constitution every day that it is continued. On the continent, the hemlock has been used in the form of a bath; but it is so disagreeable, that few can be brought to use it.

THE belladonna has been much recommended by Lambergen, who tried it in many cases of cancer; but these trials, when repeated with attention, have not been greatly in favour of the remedy. During its use, he kept the bowels open with

ply, that we diminish the dose at first, if it have formerly been very considerable. By not attending to this, fatal effects have followed.

clysters, administered every second day. The dose, at first, ought to be a grain of the dried leaves, made into a pill. This, in the beginning, is to be given morning and evening, and afterwards more frequently.

THE hyocyamus has also been frequently used in cancer, and was very much in repute with the ancients. I have tried it occasionally, but with very little effect. The dose with which we begin, is two grains of the extract.

THE aconitum is a more powerful and dangerous narcotic, in so much that a quarter of a grain of the extract is generally the dose with which we begin.

THE solanum dulcamara, Paris quadrifolia, phytolacca, &c. have been likewise recommended and employed, but

are now so little used, that it is unnecessary to take any notice of them here*.

THE *laurus cerasus* is a very powerful narcotic, and has been used, in this particular complaint, by Richter, but with very little success. The most common preparation of this medicine, is the distilled water; but the dose of this is very uncertain. Some have, therefore, proposed to give, for a dose, four or five grains of the fresh leaves infused in a little water.

THE *digitalis* has a considerable power of abating vascular action, and may, therefore, be of use, in the same point of view with abstinence, bleeding, &c. in

* I have tried the hepatized ammonia, but without any benefit.

abating the action of fchirri ; but concerning its real utility in this difeafe, I cannot fay any thing with certainty.

OPIUM is feldom employed with an intention of curing this difeafe, although it is probable, that it poffeffes juft as much power over cancer, as thofe other narcotics which have been more frequently ufed. It is, however, liberally employed with a view to abating the pain of cancerous ulcers.

TONIC remedies have frequently been ufed in this difeafe ; but although they may fometimes improve the general health, yet they never produce any effect upon the local difeafe. On this account, they are now very feldom employed.

ARSENIC is a medicine, which has, by

some, been considered as a specific against cancer *; but even those who maintain this, add, that although they *believe* and *think* so, yet they have not been able to administer it in such quantities as to produce any good effect.

MERCURY † has also been recommended; but there is no fact more certainly ascertained than this, that mercury uniformly exasperates this disease, especially when it has proceeded the length of ulceration. In this case, the sores enlarge rapidly, become much more painful, and bleed frequently. It is worthy of observation, that those who are affected with cancer, have in general the mercurial ac-

* Justamond on Cancers.

† Alongst with this, it was customary to prescribe decoctions of guaiac, sarsaparilla, &c.

tion induced very easily and very speedily * ; and the changes which take place on the ulcer are equally rapid. This circumstance, of mercury increasing the disease, in so marked a manner as it usually does, ought not only to make surgeons careful of exhibiting this remedy, upon slight suspicions of the sore being venereal †, but may likewise be attended to as a step toward the discovery of a better mode of treatment for cancer than we yet possess ; because if, at any time, we discover the means of directly displacing and counteracting the mercurial action, we may perhaps find the same to be useful in abating the cancerous ; these two actions appearing to possess some general

* It likewise continues very long after giving up the use of the mercury.

† Some cases of this kind I have already mentioned.

coincidence, from their mutual effect in increasing each other.

COPPER, in the form of cuprum vitriolatum, has been used in cancer ; and one case is recorded, in which it is said to have produced a cure ; but in every other case it has failed ; and, from the violent effects which it is apt to produce, considerable danger attends its exhibition.

MURIATED barytes has been proposed as a cure for this disease ; but now none employ it with this expectation.

THE same remedies which internally have been supposed to cure cancer, have also been proposed as local applications.

AMONGST the older practitioners, narcotics were very currently employed as a

dressing for cancerous fores. Vesalius
 used cloths dipped in the juice of the sola-
 num ; whilst others employed it mixed
 with oil of roses, and preparations of lead
 and antimony. Others had recourse to
 the hyocyamus ; whilst of late the cicuta
 poultices seem to have superseded the use
 of most other narcotic preparations.
 These have, undoubtedly, in many cases,
 abated the pain, and diminished the fœ-
 tor ; but this is all which can reason-
 ably be expected from them ; and even
 this expectation will not always be real-
 ized.

CARROT poultices are still more use-
 ful, as they possess the property of a-
 bating the fœtor, in a degree superior to
 the hemlock, and give generally as much
 ease. This fœtor has been long com-
 pared to the smell of hepar sulphuris,
 and lately has been supposed to arise al-

together from the formation of a substance of this nature, consisting of sulphur and volatile alkali. As it has been too much the case in medicine, to overlook causes, and attend to effects, so we are not to be surprised, if we find some physicians proposing to cure cancer, by remedies which shall decompose the matter which is yielded in that disease, or destroy the effect of the morbid action, whilst the action itself is overlooked *. From experiments made upon the hepatized ammonia, it was found, that the oxygenated muriatic acid was the best agent for decomposing it, and destroying its smell. This fluid was, therefore,

* Although the fœtor may depend upon the presence of hepatized ammonia, yet this does no harm to the ulcer. On the contrary, I have sometimes found the application of this fluid, when mixed with water, have the effect of abating the pain.

highly recommended as an application for cancerous fores ; and, in many instances, it will indeed be found to correct the fœtor, which is certainly one advantage ; but it never will perform a cure.

CARBONIC acid has been said not only to correct the fœtor, but also, in some instances, completely to cure the disease. It was long ago proposed by M. Peyrilhe, and of late it has again been brought forward by Dr. Ewart, who has published a case in which it produced cicatrization ; but although, upon his recommendation, it has been frequently employed, yet it has very seldom been of any considerable service, and I have heard of no instance in which it produced any permanent amendment. It would rather appear, that the opinion of M. de Fourcroy was the just one : “ After the first applications

“ (says he), the cancerous fore appears to
 “ assume a more favourable aspect, the
 “ fanies which flowed from it becomes
 “ whiter, thicker, and purer, and the
 “ flesh has a redder and fresher colour ;
 “ but these flattering appearances are
 “ deceitful, nor do they continue long,
 “ for the fore speedily returns to its for-
 “ mer state, and its progress goes on as
 “ before the application.” The best me-
 'thod of applying this, is by means of a
 bladder, the mouth of which is fastened
 round the fore, by means of adhesive
 plaster. The air is introduced by a pipe
 inserted at the other end. When first
 applied, the gas produces a sensation of
 coldness, which is soon followed by a
 glowing heat, and abatement of the pe-
 culiar pain of the fore. At other times,
 it, from the first, produces a smarting,
 and makes the patient rather more un-
 easy. This is especially the case if we

use the fermenting poultice, instead of the air already extricated.

DIGITALIS, applied either in poultices or infusion, has been said to abate the pain, and meliorate the appearance of the fore ; but, in this respect, it seems to be very much on a level with *cicuta*.

TAR ointment, gastric juice, absorbent powders, and many other applications, which it is unnecessary to enumerate, have been proposed ; but as their utility is by no means evinced, I shall not detain the reader with any remarks upon them.

CAUSTIC, and escharotic preparations, have been already considered.

UPON the whole, when the ulcer does not admit of being extirpated, all which

can be done, is to keep the sore clean, by washing it carefully, and dressing it with some mild ointment, or using some of the poultices or lotions already mentioned, if these do not gall the skin, at the same time that we keep the patient easy by administering opium.

HAVING now concluded these observations on the cancerous inflammation, I should next proceed to the consideration of the venereal inflammation; but the dissertations on this subject must be reserved for another volume.

END OF VOL. II.

GLASGOW.

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